



# College AND UNIVERSITY Business

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# GUEST EDITORIAL

## We Dare Not Fail

THE SERVICE BASE OF HIGHER EDUCATION IS today being considerably broadened. The postwar influx of students involves not only increased enrollments but also some different kinds of students from those formerly served. The extension of the clientele of higher education brings with it new demands for services, which may, in many instances, require reconsideration of institutional objectives, and opens up new sources of appraisal.

Heretofore higher education has served a relatively small fraction of the population. Probably for this reason it has been much less subject to current social pressures than have other levels of education. Institutional autonomy, the prestige associated with the words "college" and "university" and the long tradition of venerating such institutions as the repositories of the collected wisdom of the ages have, to some extent, shielded higher education from the kinds of outside criticisms and pressures that have frequently influenced the course of elementary and secondary education.

There have been, of course, some critically inclined elements in the constituencies of most colleges. If the football team is losing too many games, outside pressures may make it necessary to fire the coach. But such an occasion is unusual and for the most part the institutions of higher education have gone their own ways as determined by faculty, administrative staff and boards of trustees. Protesting patrons frequently have been met by the lofty attitude epitomized in the well known story of the dean who, on being questioned about the facilities and procedures of his institution by the mother of a lad who was applying for admission, replied, "Madam, we guarantee satisfaction or we return the boy."

Many students now flocking to American colleges and universities have less veneration for ivy clad tradition than those who attended in previous years. The veterans seem to know what they want and have shown a willingness to criticize long accepted practices. They are not easily rebuffed by academic superciliousness.

The presence of these students on the campus presents a significant challenge. They come with the belief that the investment of their effort in further education will be profitable but they have no time to waste and they ask themselves constantly whether the benefit received is worth the effort and time expended. That they are willing to do their share to make the experiment of extended education successful is indicated by reports from all over the country.

Just now educational administrators are preoccupied with problems of material provisions for the increased enrollment, such as housing, classroom and laboratory space, and with the staffing of the instructional program. These are urgent problems and they must be solved. But it is not enough merely to provide material facilities and some sort of a teaching staff. These are only adjuncts to a real education. Unless the instructional program continues to be maintained on a sound basis, with more or less obvious relevancy to problems of modern society and its individual members, the veterans may be expected to be among the first to sense the situation and to rebel.

The greatest disaster that could happen to higher education in this generation would be the failure to take advantage of the present opportunity to convince a large and representative segment of the population, through personal experience, that colleges and universities have something to offer that is vital to the welfare of the society and the individual. We dare not let our veteran students leave us with a conviction that they have been fed on empty husks or that their time has been wasted.

We must see to it that these students go out with a feeling of satisfaction about their academic experiences. We must make certain that their period of extended education furnishes them with intellectual capital that will continue to yield rich dividends throughout life. If we succeed in this, we shall have laid the soundest possible basis for adequate support of higher education in future years.—JOHN DALE RUSSELL.



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Published monthly by The Nation's Schools Publishing Co., Inc., 919 North Michigan, Chicago 11, Ill., U.S.A. Otho F. Ball, president; Raymond P. Sloan, vice president; Stanley R. Clague, secretary; J. G. Jarrett, treasurer. Copyright 1947 by The Nation's Schools Publishing Co., Inc. Published on the tenth of the month of the date of issue. Change of address should be sent thirty days in advance of publication date.



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H. L. WELLS

HARRY L. WELLS, vice president and business manager of Northwestern University, discusses administrative efficiency from the vantage of experience as businessman and educator. Prior to becoming business officer of the university in 1934 and the subsequent promotion, he was vice president and general manager of Bauer & Black. For twelve years he was operating executive of Hart, Schaffner and Marx and, during World War I, was assistant and acting chief of the uniform division of the U. S. Army. Mr. Wells has been an active member and officer of the Central Association of College and University Business Officers since 1934. . . . L. W. WINKEL for the last ten years has been instructor in the janitor-engineer training program of the Kansas State Board for Vocational education, Topeka. He is an expert in instructing janitors in proper methods of electrical, mechanical and maintenance work. As a sideline he likes to wet a line as a fisherman when his business schedule permits.



K. H. SMITH

KERMIT H. SMITH, assistant registrar of Michigan State College, has spent eleven years in registration work at the college and was recently charged with special responsibility in the installation of a business machine system for the handling of student registrations. . . . W. B. FORSTER, purchasing agent of Akron City Hospital, has devoted considerable time to the matter of properly refinishing furniture and submits in this issue his recommendations as to technic and procedure—timely solutions to shortages, both material and budgetary.



F. R. GEORGIA

F. R. GEORGIA, sanitary chemist and water works supervisor of the department of buildings and grounds at Cornell University, has been interested in sanitary chemistry problems since 1915 and has written extensively for professional journals in this field. He indulges in handicrafts as a hobby and as to special tastes he likes "good food, good tobacco, good liquor, good music and interesting people." . . . HAROLD MUTISPAUGH, assistant business manager and purchasing agent of Rollins College, found that his experience in the armed forces was not all one of frustration in getting things done. Consequently he passes on to business officers hints picked up in the army which might be helpful. Ardent outdoorsman, he has spent his summer vacations with his wife in exploration of 1500 miles of Florida rivers by canoe.



J. C. TOEDTMAN

JAMES C. TOEDTMAN, director of publicity and journalism at Ohio Wesleyan University, recently entered college public relations work after ten years' experience in public relations and personnel work with General Motors and Monsanto Chemical Company. He has been a regular contributor to magazines but does take time off for gardening and golf.



# Looking Forward

## Well Done!

AS WE SURVEY THE ACTIVITY OF COLLEGE ADMINISTRATORS in meeting the problems caused by overflow enrollments last fall, we feel they richly deserve the accolade, "Well done!"

In many cases the obstacles facing them in terms of necessary housing, instructional supplies and faculty recruitment seemed insurmountable. But against these forbidding odds college officials rolled up their sleeves and plunged in to bring a semblance of order out of confusion.

It has not been easy. They have been forced to unsnarl countless miles of government red tape to obtain housing units and supplies for veteran students and their families. They have spent weary days traveling by automobile, train and plane to government surplus depots to pick up a few beds here and some plumbing there so that the campus G.I. could enjoy some of the comforts of a home. Temporary expedients have resulted in housing students in church belfries, in drained swimming pools as well as in gymnasiums and libraries. But there is a place for the G.I. to sleep!

Facing the competition of high industrial salaries and business opportunities for faculty members, colleges have been able to add to their faculty roster so that instruction can be provided. Class schedules have been revamped, the work day has been lengthened and large classes are now the vogue. While some of these compromises have threatened the quality of instruction, higher education is struggling valiantly to prevent its standards from being lowered.

College officials, step forward and take a bow!

## Food Costs

IN A RECENT FOOD SERVICE SURVEY CONDUCTED by this magazine, results of which were published in the December issue, one alarming fact was noted: the ignorance of many institutions as to what their actual raw food or labor costs are.

That one who is charged with the budgeting and operation of a food service department is not able to ascertain raw food costs, either by meal or by day, is almost inconceivable. Yet in many of the questionnaires returned, this question drew a blank or the comment, "We don't have figures on raw food costs."

How can semblance of cost control be exercised if the manager or director of food service does not know what the per student or per meal cost is? What is to prevent the food service program from bankrupting the institution? One of the essentials of administration is an accurate report of costs and their control. Otherwise budgetary control becomes a lost cause.

Operation of college dining halls in these days of shortages and high prices is a thankless job. It will not be eased or simplified by neglect of proper recording of costs. One authoritative observer of this survey declared: "I am startled at the limited amount of information which some of these people seem to have and the inaccurate and inadequate way in which some of the questionnaires were filled out."

To the credit of several institutions it must be noted that they were able to compute raw food costs per meal to a fraction of a cent, even carrying the result to four decimal places. You can be sure that those institutions know exactly where to exercise control. Do you have comparable information for your institution?

## Professional Competence

MAINTAINING COMPETENCE AND PROFESSIONAL leadership in your field of endeavor does not come from "vegetating." How often do college administrators do outside reading or attend professional conferences or conventions which will inspire or encourage professional growth?

"I'm too busy to do anything but handle the daily grist of the mill that flows across my desk" is often the complaint of college administrators when queried on their supplemental professional activities. Interestingly enough, those who are really the busiest and exhibit the most efficiency are the same men and women who take every opportunity to learn more about their jobs by study of professional journals and by outside contacts with leaders in the field. They are the ones most anxious to see how the other fellow does it in order to measure their own progress.

Long tenure of service is not an assurance of having all the answers on efficient administration. It may be worthwhile to take a personal inventory to discover how your own effectiveness and productivity can be increased. It ought to give new vitality to your professional future.

## Keep the educational ship from rocking or sinking by

# Good

AN ARTICLE ON BUSINESS EFFICIENCY invariably leads one to uncertain ground. At best, most of our organization can only approximate an efficient program, and the chances are great that if we have been doing a thing for a period of years in a particular way it is already outmoded by some new mind that has come into our field.

An essential of business efficiency is alertness to what is happening in the field along with an indefatigable searching for new and constructive ideas. There is, perhaps, no greater measure of a firm's value as an investment medium than its capacity for research and new ideas. This is equally true when measuring the management of an educational institution.

Among the general principles of good management the first is that there are natural functional correlation points in every institution which break down into natural subcorrelation points.

The second is that competent men with the type of background necessary to man these correlation points must be chosen.

As a third principle, responsibility and freedom must be given to the men who have been assigned and, lastly, records of check and balance must be so arranged that no action within the institution is conceived, carried out and checked under one supervision.

If these four principles are applied against each organizational suggestion in an institution they will act as checks against moves that weaken management and will continuously prompt and prod efficient management to greater accomplishments.

### MOST SIGNIFICANT PERSON

If one were to pick the person who is of more significance to an institution than any other, regardless of position or caliber, he would pick the man who shows the capacity to correlate and coordinate the myriad loose ends which constitute an institution. No college or university can operate successfully without adequate controls, and any college or university can operate in balance at almost any level of income if it is willing to face its

problem and confine its program within its financial "cloth."

In the march of progress, an institution that stands still really recedes, and record controls and correlations have but one function: to ensure financial solvency so that the educational program may be constructively expanded and intellectual pioneering constructively encouraged. The word "constructively" is used advisedly to contrast with much of educational growth which, by the nature of the case, has been predetermined by donors or legislatures.

Let us attempt to weigh this problem from a purely theoretical approach. Assume that a generous benefactor were to approach several of us tomorrow with some such statement as this:

"Mr. X has convinced me of the worthwhileness of establishing a great institution along educational and scholastic lines which he deems constructive and important. I recognize that Mr. X is a great scholar and that the content of this program is worthy of promotion. It will require, however, large expenditures for plant and equipment, many financial controls and adequate machinery to invest wisely the money which I am willing to contribute.

"Assuming that Mr. X is concerned with the curriculum, the educational requirements and the many problems arising from the student teacher relationship, will you undertake to organize the physical and business side of this program for him?"

It would be interesting to hear the various approaches to this problem. We should likely discover an impressive unanimity as to the grouping of the activities involved. Broadly speaking, these activities would tie together at fairly obvious functional correlation points: (1) educational management, (2) business management, (3) public relations manage-

ment and (4) institutional research and audit.

Regardless of how we group the machinery or delegate the responsibility, the effectiveness of correlation at these four points will largely determine the success of our endeavors.

Before we would accept such an assignment we should ask some searching questions. It is presumed that we have had an experience which justifies our consideration for the position. We should question immediately the sincerity of the delegation of responsibility and the extent of real authority to be granted. To delegate responsibility so as to eliminate endless red tape, and still retain sufficient control and policy contacts to correlate an activity, is the test of real management.

### REASON FOR FAILURES

Too few executives know what to do with themselves when divorced from direct contacts and assigned to positions which require that they delegate these contacts to subordinates. The reason for many failures in delegated responsibility is not the inability of the subordinates but the incapacity or unwillingness of the superior to delegate authority. The nearer to the top an executive climbs the fewer subordinate contacts should he maintain, and the greater the portion of his time that should be consumed in determining broad policies and analyzing control and correlation reports.

The ability to read control instruments and find in them opportunities for creative improvement and also to detect impending danger is the essence of managerial efficiency. This is mentioned because it accounts for much of the confusion and inefficiency in business management, particularly in colleges and universities where the exactness of costs and competition is less sensitive than in the industrial field.



# Management

Educational institutions have historically been manned at the top by men trained in special fields of scholarship who have had little or no background of executive experience. Out of this has grown loose correlation, resulting in the autonomy of departments and schools with their inherent jealousies and entrenched "kingdoms." It is out of this confusion of autonomies that the opportunity and need for effective business management arise. It is business management's job to supply educational leaders not alone with the financial controls with which to correlate their institution but to add also an experience of interpretation.

## SHARING FINAL DECISIONS

This discussion leads to a point at which the delicate relationship among the trustees of the university, the president and those next in line is exposed. It is sound organization to permit second line executives to share in the final decisions on major policy and organizational matters. Business management should be in a position to contribute certain things to each major decision which no other individual can do as intelligently.

This is true for two obvious reasons. First, the "financial repercussions" in any major move are significant and call for intimate financial information; second, after these major decisions are made good management dictates that they be made operative through the first line subordinates.

To superimpose, without previous understanding, a major decision or policy upon a subordinate executive, whose task it is to carry out that decision, is to abet disintegration of organization. The purpose of these rather bold, and perhaps "fighting," words is to uphold the thesis that correlation cannot be developed if organizational responsibility is established and then ignored.

The small size of an institution and the limitations of the budget often dictate the assignment of certain functions to men who also teach. To combine a major business function with an allied teaching assignment requires careful selection of personnel, but experience indicates that a clear cut division of responsibility can be maintained.

In order further to clarify the organizational problem it should be pointed out that the relationship between trustees and administrative officers of the university or college should focus through the president. It is doubly important that trustees, who by the nature of their trusteeship constitute final authority, should follow sound managerial routine and delegate to the president the responsibility for running an effective and efficient institution.

The by-passing of the head of an organization by trustees, or of a subordinate by his superior, will quickly destroy his usefulness. To preserve organizational clarity is one of the most important contributions that trustees can make.

If lines of organization and authority were as clearly defined as this oversimplification infers, business management would be mere routine. Theoretical projections are, however, at best only ideals toward which we have a right to strive. A deep conviction concerning clear cut correlation will greatly increase the effectiveness of our organizations.

The most effective correlating element in managerial machinery is the simple reaction of check and double check growing out of straight lines of authority. It is sound business technique that just as far as possible no department or subdepartment should span a routine sequence of operations from beginning to end. The product of each should clear at some point through the check of another author-

ity. The person who keeps records should not be permitted to handle money and the one who controls the budget should be divorced from all operating responsibilities. The spending of money should be separated from the authority to write checks and pay bills.

Just so, the educational departments should always be free to check and challenge the business correlation of an institution. It is this reaction of check and balance that keeps departments alert, efficient and honest.

In the list of natural correlating functions mentioned earlier in this discussion was "institutional research and audit." This concept involves a free lance department reporting directly to the president. It should have no operating responsibility of any nature and should be staffed with persons of thorough research capacity. Such a department represents a most needed link in the chain of checks and balances which prod an organization to alertness. Its field of operations must be co-extensive with every activity of the institution. Its surprise audits and continuous research will pay dividends that will extend beyond financial returns.

We need to clarify one other phase of business management which in some respects is difficult to comprehend. This refers to the service aspect of business functions which indicates clearly that operating responsibility does not necessarily carry with it the major influence in determining the nature and scope of assignments. Facts desired and forms of presentation are not decisions of those who prepare them and in most cases represent the desires of other departments.

## HOUSING AS EXAMPLE

Student housing is strongly illustrative of this argument. Those responsible for educational programs and personnel adjustments should exert the major influence as to the goals desired from such housing and for the disciplinary and counseling procedures. This does not, however, close the door for logical alignment, within its proper correlation field, of the operating machinery for making



these desires effective. It is this co-operative balance between policy making and operating responsibility that furnishes the safeguards for a smooth running organization.

Certain activities are recognized as the function of business management. Accounting records, cost records, cashier control, financial research, routine auditing and budget control are without question included in the list. Building construction, maintenance operating and purchasing would generally be added to the list. Investment

responsibility is a less obvious inclusion but it is so intimately involved in the records and controls that it takes its place with student income and other assets. Student housing and certainly legal contacts would in many instances be questioned and in some cases excluded.

It is fairly easy to see why the various financial recording controls belong in the business department. Their purpose is to present the financial facts to the administrative officers and to furnish a current interpretation of

every activity carried on in the college or university. They are the main factor in business correlation.

The second group of activities dealing with plant construction, building maintenance and general purchasing are strictly business functions because they require distinct business organization and business background. Training for these positions does not come from the pursuit of scholarly fields. It comes from actual experience in building engineering and vender relationships.

In the third group comes the question of student housing which certainly has involved in it educational and personnel goals. The management, however, of the operating problem is not unlike the business problems involved in running a hotel. It calls for the same business managerial capacity and cost sense required for any other building management problem. It presents the normal contact which a student will face after he is graduated from college. He needs these normal contacts in his undergraduate days, and too often we establish a piece of machinery that is completely abnormal to life and savors of a paternalistic coddling which virile young people resent. Housing is a normal "pay as you go" job and calls for genuine business supervision and experience.

As to an argument for legal machinery being established in the business function, it rests largely upon the concept that every institution requires thorough legal auditing to be sure that actions taken are within the bounds of legality. It is as important to check an institution legally as it is to audit it from an accounting angle. In addition, most of the legal requirements are the result of business activities and fall within that correlation because of major use.

Perhaps the loose ends of this discussion can be tied together by a graphic simile. The purpose of the cargo or the ultimate goal of the educational ship is not the responsibility of the crew whose job it is successfully to guide its financial course. The purpose of the university, the goal of its program and the discipline of its passengers are in other hands. The ship is the concern of business management and if the many factors which constitute the vessel are not carefully correlated and checked, the boat will be rocked and it might even be sunk.

## WINNING FRIENDS and INFLUENCING TAXPAYERS AT A STATE UNIVERSITY

JAMES H. CORLEY

Comptroller  
University of California

A BUSINESS MAN CONSIDERS THAT he has a firm foundation for good public relations when he pays an adequate profit to his stockholders, has earned a reputation for fair treatment of his employees and has satisfied his customers that he is scrupulously honest in his dealings with them.

Public relations for a state university is rendered more complicated by the fact that there is no such foundation on which to build. An educational institution, at least a public one, does not pay a cash profit to its stockholders. As far as figures are concerned, everything is going out and nothing coming in. The owners receive no checks and the benefits to be derived from any one year of spending, particularly for research, are sometimes not realized until half a century has passed.

Similarly, if a state university attempts to treat its employees fairly, it must justify rather than boast of this fact, because most of its employees will then be receiving more money than many of its stockholders.

In regard to the question of satisfied customers, a problem is raised: the fact that the customers are never satisfied with what they have received until they have been able to resell it for a place of security in the world, an achievement which may take them many years. Their satisfaction will fluctuate with the economic conditions of the country and the state of the labor market. It will also be influenced unduly by such extraneous matters as the gridiron record of the football

coach, the willingness of the university to accept their children and the personal politics of members of the faculty.

Experience would indicate that it is seldom necessary to remind the stockholders of a state university as to how much the institution is costing. It requires constant and herculean efforts, however, to convince them that they are getting their money's worth in return. This is particularly true in regard to those intangibles upon which the reputation of a great university must, in final analysis, depend.

In actual practice, the public relations of a university must be built on continued service to as many stockholders as possible through on-campus and off-campus education and through research. Individual stockholders are selfish and unless the service rendered is shown to affect them personally it is not adequate. This service must be publicized as widely as possible in that all stockholders (the taxpayers) believe that they have a share in the business—to their individual benefit as well as to that of the whole state. Then the financial statement tells a story on the contribution to the welfare of the commonwealth and is not merely a set of figures.

Pictorial display of service and cost has proved to be the best method of telling the facts in public relations. This must be publicized as widely as possible so that when it is necessary to publish financial statements there will be something in the stockholders' memory to balance the ledger.

# IT'S EASY TO REGISTER AT MICHIGAN STATE

## KERMIT H. SMITH

Assistant Registrar  
Michigan State College

REGISTRATION AT MICHIGAN STATE College includes all the operations involved in (1) procuring information for various college offices, (2) assessing and collecting fees, (3) classifying the student in proper courses for the term as required or elected in the student's curriculum, (4) assigning the student to proper sections in these courses and (5) notifying instructors and departments as to the students who are enrolled in each section.

The great increase in enrollment since the end of the war and the additional tasks required so that veterans can be properly reported to the Veterans Administration have taxed all educational institutions. The increase at Michigan State College has been: fall 1945, 5300; spring 1946, 8000; fall 1946, 13,100. The prewar peak was 7000.

The enrollment had increased so rapidly before the war that in 1939 it became necessary to revise methods of handling registrations. A setup of business machines was installed in a central tabulating office to serve on registration work, general accounting and general research problems. The assessment and payment of fees and the assignment of students to sections are done in a centralized registration bureau set up for three days in the college auditorium.

### THE STUDENT NUMBER

The basis of machine registration at Michigan State College is the student number, a permanent number assigned when the student's admission credentials are approved and the admission card is made. This number is given to the student on his admission card and on a temporary identification card. Following registration a permanent photographic identification card is issued. The student's picture is an integral part of this permanent card which must be presented at each registration period, lecture, concert, athletic

event, to cash checks, for admission to comprehensive examinations and on similar occasions.

A copy of the admission card that is mailed to the student is coded and sent to the tabulating department to punch the master name card. This card carries the following information or codes: student's name, student number, curriculum, class, sex, home town, geographical code, residence code, year of birth, code for preparatory school, high school rank, citizenship and military service status.

The master name card is the source for all admission statistics and lists. During registration it is used to duplicate automatically student information into individual class cards and information cards. Following registration it is used for census figures of students registered by sex, by curriculum, by class and by geographical distribution.

Immediately prior to registration the master name cards are put in steel files in student number order and indexed for each 100 numbers for handing out at registration.

After being admitted each student is assigned to an enrollment officer from the department in which he expects to major. (Students who have not indicated a major or a school preference are assigned to the general counselors.) Each enrollment officer has from 25 to 75 students to guide through the registration procedures for the first two years in the basic college. Upon admission to a school

as a junior, the major professor acts as the enrollment officer for the next two years.

Students are scheduled according to an alphabetical program to meet with their enrollment officers to select the courses in which they are to enroll for the term. The enrollment card giving the list of courses selected is made out and properly signed and a trial schedule of classes made. The enrollment officer provides each student with a "Schedule of Courses" book, registration forms to be filled out before registration and a sheet of directions.

The registration cards include cards with personal information for the registrar, deans, church, veterans' affairs and directory. They can be punched and sorted for the administrative offices. The directory cards are sorted and used to prepare the official student directory. During winter or spring term registrations a summer school questionnaire card is included.

### ALPHABETICAL GROUPS

The books and forms are previously made up and assembled by the registrar and sent to the deans' offices for the enrollment officers. Students are scheduled for admission to the central registration bureau in the auditorium by alphabetical groups at 15 minute intervals. These groups are rearranged each term to give equal chance for early registration during the year.

Upon the student's admission to the auditorium, his fees are assessed ac-

**MICHIGAN STATE COLLEGE**  
PRESERVE THIS CARD  
A Duplicate Will Cost Twenty-five Cents

*Duplicate*


Issued by *K. H. Smith* Registrar

Name \_\_\_\_\_  
has been admitted as a student to  
Michigan State College

Number \_\_\_\_\_ This Number \_\_\_\_\_  
is very important. It will be used to  
identify all records and financial trans-  
actions while a student at M. S. C.

Date \_\_\_\_\_

\_\_\_\_\_  
Signature of Student





cording to the credits elected and by state residence. The student then pays his fees or is verified for a scholarship or for state rehabilitation or presents his authorization card showing eligibility for benefits under P.L. 346 or 16.

Each new student is then photographed for identification purposes. This picture is made a part of his permanent identification card and copies of it are sent to the deans, the counselors and the health service.

The student is then ready to complete his registration.

Each department sends representatives to the central registration bureau to handle registrations for courses in its department. The registrar's office and tabulation department staff prepare in advance prepunched class cards for each section as listed in the schedule of courses. These cards are prepared by machine from a set of master class cards which are punched from the schedule of courses.

The class cards contain the following prepunched information: (1) department number, (2) department name, (3) course number, (4) credits (except variable credit courses), (5) section designation, (6) sequence number (a four digit number assigned to put class cards in order alphabetically by department name, numerically and alphabetically by course number and, finally, in order by section designation) and (7) code for first class meeting after registration.

The number of class cards to be made for each section is determined by the registrar's staff and the department concerned. This number is gang

punched in the master class cards which are prepared by machine in the tabulating department.

The class cards are then indexed and placed in boxes for each department at registration.

#### CHANGES IN COURSES

Upon admission to the central registration room the student checks his trial schedule with the closed section boards and makes necessary adjustments in sections. If it is necessary to make any changes in courses elected, the student must consult the general basic college or school representatives in the auditorium who have the authority to make the changes and report them to the student's enrollment officer.

The student then presents his enrollment card and trial schedule card to each department in which he is enrolling for courses. These departments are designated by signs and are located in alphabetical order around the auditorium. The departmental representative gives the proper class card to the student and initials the section on the enrollment card.

After the student has obtained his class cards from each department in which he is enrolled, he writes his student number only on his class cards and writes on the enrollment card the hours that the classes meet. He is asked also to put the class cards in the same order as they appear on the enrollment card.

The student presents his identification card to a clerk at a table designated "Name Cards" for his master

name card. This card is put in front of his class cards and registration cards and all are presented along with the enrollment cards and student receipt at the check-out tables.

The class cards are checked with the enrollment card and are picked up by the checker so that the student has left only his (1) identification card (2) trial schedule card and (3) student receipt.

He is issued an activity book at the next stop and has then completed his registration. Last fall, immunization vaccine injections for influenza were given to all students following the issuance of the activity books.

After the student leaves, the registrar's copy of the enrollment card is put in alphabetical order and the deans' cards sorted by schools. The name cards, class cards and registration cards are fan-checked for students' numbers ready for processing. The cards are then taken to the tabulating department where the name, student number, curriculum, class, sex and military service status are gang-punched from the master name card into all the class and registration cards.

The class cards are interpreted and sorted by "first meeting" code and put in files until registration is complete. The registration cards are interpreted and sorted according to their final destination and held until registration is complete. The master name cards are sorted and counted by machine to give registration figures at the end of each day.

At the close of registration the class cards for sections meeting the first half

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MASTER NAME CARD is source for all admission statistics and lists. File is complete to fall of 1938.



[illegible]

The even flow of students through registration makes for a more efficient handling of students at all stations. Through the use of business machine cards and equipment a great deal of the hand work on the part of the students and the instructional staff has been eliminated, thus allowing for a speedier registration procedure.

# AMENDED PAYMENT PROCEDURES ON V.A. CONTRACTS

N. R. HENSON

Director Training Facilities Service  
Veterans Administration

ON NOV. 1, 1945, APPROXIMATELY 103,000 veterans were in training under both Public Laws 16 and 346. On Nov. 1, 1946, approximately 2,000,000 veterans were in training, with approximately 1,000,000 of this number enrolled in institutions of higher education. The number actually accommodated exceeds all estimates of the number of veterans that might be accommodated.

The Veterans Administration has been working on a procedure for the payment of tuition charges to help institutions solve the financial problems created by the fact that they have not been receiving tuition payments for veterans until some time after the end of the term. Normally, financing of current expenditures is based on the receipt of tuition payments at the beginning of a term. Numerous suggestions have been received involving a procedure for advance payment of tuition, payment of tuition at the beginning of the term or lump sums of money to be advanced by the V.A.

These proposals have been examined carefully and, while some variation of such a plan might be adopted, it would require the execution of special contracts and special procedures which would be a burden both to the institutions and to the Veterans Administration to administer in accordance with the requirements of the Comptroller General.

## NO PAYMENTS IN ADVANCE

In lieu of a procedure involving advance payments, the Veterans Administration now has adopted a plan set forth in the provisions of Veterans Administration Circular 268, dated Nov. 15, 1946, which will permit an institution to bill and be paid for the tuition and fees for the entire term or semester immediately following the

expiration of a standard minimum refund period.

For example, an institution operating on a sixteen week semester basis could bill and be paid in full after the expiration of the first five weeks of the semester. An institution operating on a twelve week quarter basis could bill and be paid in full after the expiration of the first four weeks of the term. The circular sets forth a graduated scale of charges extended over a standard refund period for courses varying in length from one week to nineteen weeks.

## FINAL BILLING AT TERM END

Payment after the refund period is applicable to customary charges, charges on the basis of \$15 a month, \$45 a quarter or \$60 a semester or on the basis of nonresident fees for resident students. In those cases in which an institution is charging on the basis of the estimated cost of teaching personnel and supplies for instruction, the institution may bill in full at the end of the refund period for all fees other than the rate per credit hour for instruction plus 50 per cent of the tuition at the established rate per credit hour. The institution will then submit at the end of the term a final billing for tuition based on the credit hours of work for which performance of the veteran is recorded.

This procedure is necessary since the amount to which the institution is entitled at the rate per credit hour cannot be determined until credit hours of work have been recorded. Proportionate amounts of the rate per credit hour for dropouts will not be paid since the rate determination did not reflect such dropouts. This does not penalize an institution because the rate per credit hour is higher than it would be if the credit hours not recorded for dropouts had been included in the calculation.

This procedure has been adopted after a careful consideration of all of

the problems involved and was recommended to the Administrator by his special committee on vocational rehabilitation and education problems. It has been reviewed and approved by the American Council on Education's committee on relationships with the federal government. It has also been reviewed by a number of representatives of educational institutions who believe it to be sound from the standpoint of the interests of educational institutions, the veteran and the federal government.

It is hoped through this device and the prompt processing of tuition vouchers in our field offices that this financial problem of the institutions may be solved. There is no desire on the part of the Veterans Administration to require institutions to change established refund policies and therefore institutions are asked to accept this standard yardstick as to refund procedure for purposes only of payments by the federal government. This will enable the V.A. to achieve its purpose of adopting and maintaining uniform procedures which, insofar as possible, will afford fair and equal treatment to all institutions and at the same time protect the interests of the government.

## CUSTOMARY CHARGES ONLY

Circular 268 also establishes a procedure to make effective Administrator's Decision 720, dated Sept. 20, 1946. This states that effective with the enactment of Public Law 268, amending Public Law 346 on Dec. 28, 1945, there exists no legal authority for the Veterans Administration to pay other than customary charges except on the basis of a determination that the increased tuition payments in lieu of customary charges do not exceed the amount to which the institution would be entitled on the basis of the estimated cost of teaching personnel and supplies for instruction determined in accordance with the provisions of

From an address before the Eastern Association of College and University Business Officers, Boston, Dec. 2, 1946.



Veterans Administration Circular 47, 1946.

This decision is the result of the amendment of paragraph 5 of Public Law 346 which prevents the Administrator from adjusting customary charges on the basis of fair and reasonable compensation to any amount which would exceed the estimated cost of teaching personnel and supplies for instruction.

The provisions of Circular 268 require field offices of the Veterans Administration to review all payments to institutions on the basis of nonresident fees for resident students or the other alternative of \$15 a month, \$45 a quarter or \$60 a semester for all terms beginning on or after Dec. 28, 1945. If the amounts paid to the institutions exceed what the institutions would have been entitled to on the basis of the estimated cost of teaching personnel and supplies for equipment, it will be necessary for institutions to credit such overpayments on future billings to the Veterans Administration.

Circular 268 clarifies the conditions under which an institution may be entitled to receive 10 per cent of the cost of books, supplies and equipment as a handling charge.

Circular 268 also provides that the Veterans Administration will not in the future authorize under Public Law 346 payment for the cost of publishing a required degree thesis but will pay only the cost of submitting the required typed copies necessary for the granting of the degree.

#### UNDER PUBLIC LAW 16

For some time a number of state institutions have felt strongly that they should receive the same compensation for the education of disabled veterans under Public Law 16 as was paid for veterans under Public Law 346. Veterans Administration Circular No. 259 dated Nov. 5, 1946, now establishes a procedure under which most institutions will be able to qualify and receive tuition payment for Public Law 16 veterans on the basis of the estimated cost of teaching personnel and supplies for instruction in lieu of customary charges.

Circular 259 also sets forth conditions under which the payment of travel expense can be made to an institution in connection with field trips for a veteran enrolled under Public Law 346. Travel expense under Public Law 346 cannot be paid if it

is a special fee or charge covering such travel expense and not included as a part of the regular tuition or laboratory fees of the institution.

Through the provisions of Technical Bulletin 4-2, dated Oct. 8, 1946, it is no longer necessary to bill regional offices of the Veterans Administration which do not normally handle the affairs of the respective institution in order to obtain tuition payment for a trainee who drops out of the institution and transfers to the jurisdiction of another regional office.

#### SURPLUS TEXTBOOKS

The Veterans Administration is vitally interested also in helping alleviate through the use of surplus A.S.T.P. and Navy V-12 books the shortage of current textbooks and to provide veterans with books which they otherwise would not be able to obtain. A plan was instituted whereby lists of surplus books were prepared as rapidly as the books could be sorted and such lists were forwarded to all institutions of higher education. Institutions were invited to submit requisitions for such books on a voluntary basis with reimbursement of 25 cents per volume for costs of handling and issuance.

Of the approximately 1,000,000 such textbooks received by the Library of Congress, approximately 350,000 to 400,000 volumes have been issued to veterans. There still remain approximately 600,000 volumes which are either in excellent used condition or new. Nearly all of these are usable.

In addition to the remaining 600,000 volumes of A.S.T.P. and V-12 textbooks, the Veterans Administration has also assumed control of approximately 1,600,000 educational manuals purchased and used by the U. S. Armed Forces Institute. The sorting, cataloging and listing of all of these books have now been completed so that List No. 5, dated Nov. 5, 1946, is complete

as to titles, editions and number of volumes still available of all V-12 and A.S.T.P. books. A complete list of all surplus U.S.A.F.I. books is available also and is dated Oct. 23, 1946.

It is necessary that the distribution of these books be completed promptly. In order to accomplish this, a revised plan of distribution has been announced through the provisions of Circular 279 dated December 4 to require each of the regional offices of the Veterans Administration to contact its respective institutions to determine which of the available books are now in use and to enter into negotiations with the institutions to establish immediately a plan whereby they may requisition such of the surplus books as may be used and issue such books to veterans in order to void the federal government's purchase of the same books.

The regional office of the Veterans Administration is authorized to compensate institutions for the necessary expenses of this job without regard to the previous limitation of 25 cents per volume.

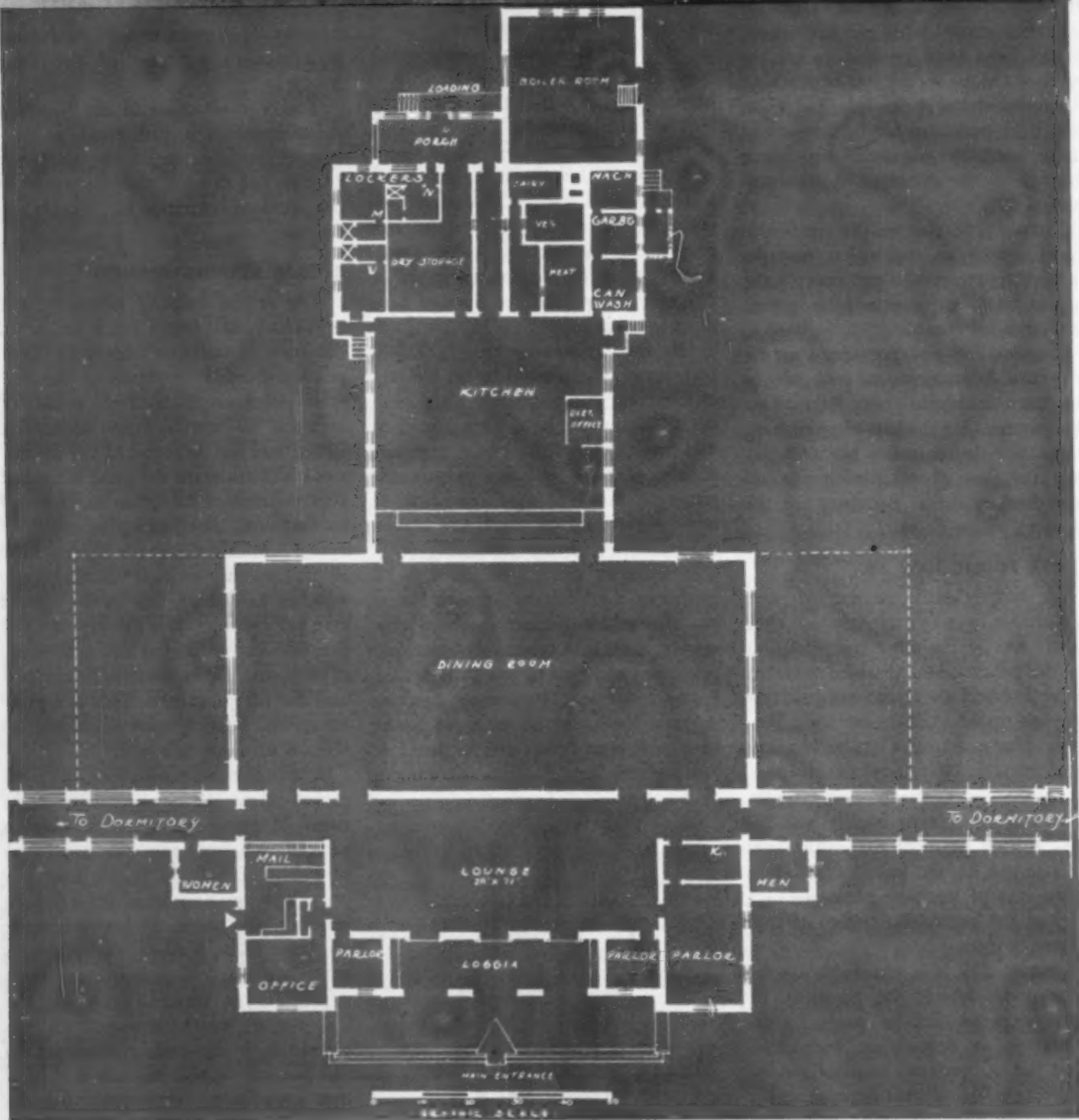
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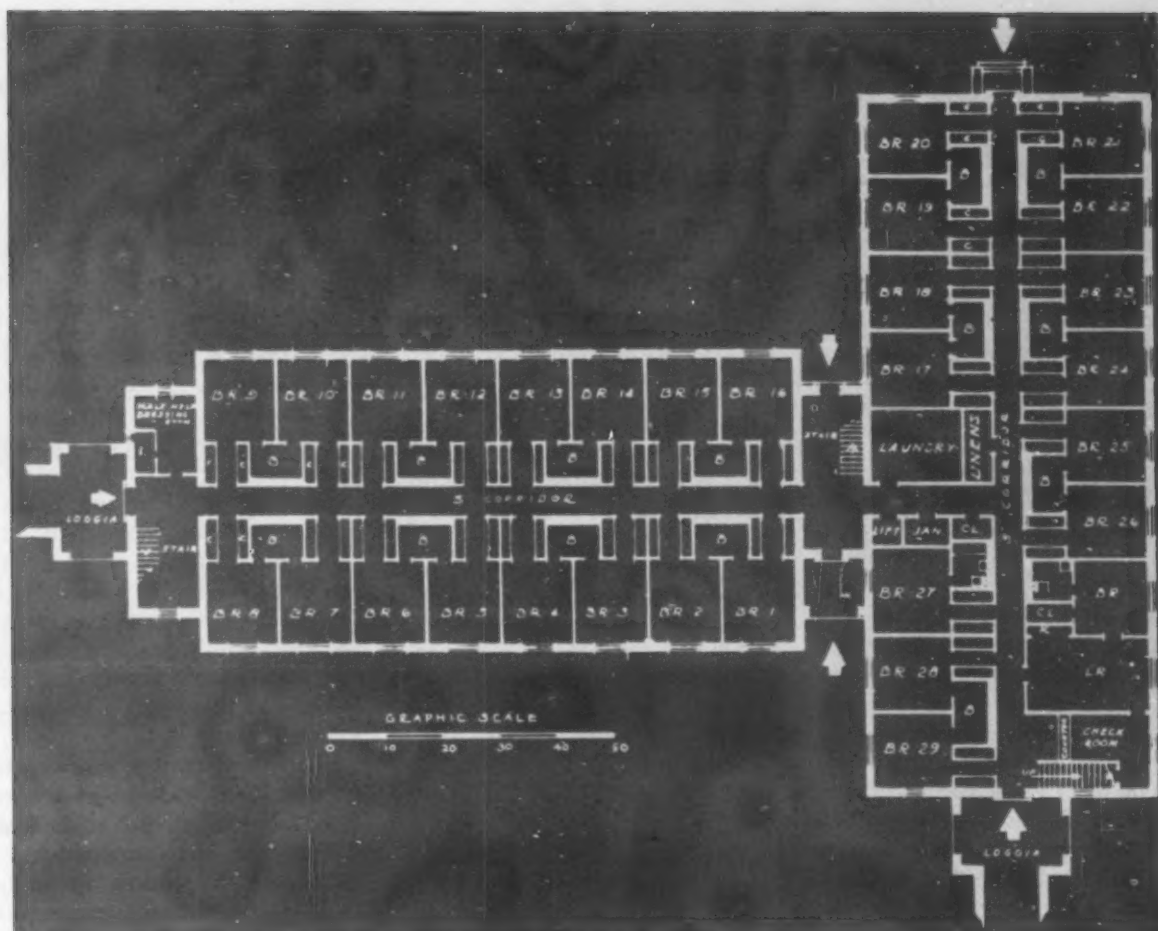
The record keeping necessary and previously established has been cut to the bone in order to impose the least possible burden. A report to the Veterans Administration of the names of veterans to whom these books are issued will not be required but institutions will maintain the same record as they maintained for other books issued to veterans. The billing to the Veterans Administration for agreed handling costs may be done on one public voucher in a lump sum at the agreed rate per volume. The Library of Congress is in a position to advise by wire, if requested, the volumes to be shipped and the shipping date. This is a project in which cooperation of the institutions is earnestly solicited.

A number of institutions have reported to me the burden placed upon them in preparing invoices when a veteran transfers from the provisions of Public Law 16 to Public Law 346 or vice versa and it is necessary to pro rate all charges as between these two laws. The V.A. is working on a procedure that will permit institutions to bill for an entire term under the law under which the veteran enrolled. It is not now possible to do this but it is hoped that a new regulation permitting this practice will be available within a short time.









Just north of the border at Texas A & I

## DORMITORIES FLANK THE DINING HALL

**GEORGE F. DENNISTON**

Eggers and Higgins  
Architects, New York

TEXAS COLLEGE OF ARTS AND INDUSTRIES at Kingsville is a small college that will greatly enlarge its campus over a period of years through careful and economical planning.

The new buildings, to be constructed of buff colored brick with red tile for roofing, show careful design following the Spanish tradition already established.

One of the big problems in Texas is the heat; therefore, as much ventilation as possible and opportunity for out of door living are given. The women's dormitories and dining hall have many large windows. This group of buildings may ultimately house 700 students but only two of six dormitories are under construction now.

One of these dormitories provides for 118 students, the other for 114, and in the latter dormitory the director has an apartment. Unlike many

college dormitories there is no lounge or reception room on the first floor. There is a living room on the second floor, also a sundeck and a kitchenette.

### CONSTRUCTION DETAILS

**GENERAL DATA:** 250 women.

**CONSTRUCTION:** Partially fireproof.

**CEILINGS:** Dining room treated with acoustical tile; acoustical plaster installed in lounges.

**HEATING:** Central gas.

**VENTILATION AND AIR CONDITIONING:** No air conditioning.

**CALL SYSTEMS:** None.

**ELEVATORS AND DUMB-WAITERS:** For service only.

**COST:** Data not yet known.

Each floor has a laundry but the rest of the building is devoted to bedrooms. These are double rooms and instead of a large community bath, each two rooms is served by one bath.

The dining hall, which is a part of this group, is a one story building connected to the dormitories on either side by an arcade. The arch motif is repeated in the loggia which forms the front of the building and opens off of the dining hall lounge. The two small wings which flank the loggia form an office and mail room on one side and a parlor on the other. There are two other parlors and a kitchenette. There is no basement and the main kitchen and service rooms, as well as the boiler room, are on the same floor as is the dining room. Students serve themselves at a cafeteria bar and sit in the dining room which accommodates 460 people.

# NEW STURGES HALL, AGED 91

## Ohio Wesleyan building starts chapter 4 of colorful career

### JAMES TOEDTMAN

Director of Public Relations  
Ohio Wesleyan University

START OUT WITH A 91 YEAR OLD Greek classic, add a full measure of 1946 styling features, mix in a goodly portion of architectural ingenuity and you have Ohio Wesleyan University's "new" Sturges Hall ready to start the fourth chapter of its colorful career.

Ask any Ohio Wesleyan alumnus about Sturges and his answer is a real clue to what years he spent on the campus. Second oldest building at one of Ohio's older universities, Sturges Hall has a glorious tradition. The college library for more than forty years, Sturges swelled with pride (if a building can do that) in the fact that President Edward Thomson went to England to buy the first books for its shelves back in 1855. That added a real touch of dignity that the stately structure on the east campus has never lost in ninety-one years.

Sturges Hall was named for William Sturges of Zanesville who in 1853 offered the then new college (it was founded in 1842) a gift of \$7000 for books if money could be raised for a suitable library building.

The classics center of the Ohio Wesleyan campus during these library years, Sturges provided a home for the campus literary societies and provided a home for many valuable book collections given to the library as memorials and kept behind an ornamental iron fence in the library.

That was its first chapter which ended in 1898 when science moved in on the classics and Sturges became a chemistry building. For twenty-nine years it quartered Ohio Wesleyan's science departments. Progress brought another change in 1927 with the transfer of chemistry to Edgar Hall and Sturges, growing old in the service of its university, became a classroom building . . . less excitement . . . less glamour . . . but still serving faithfully with the passing years.

Nearing its hundredth birthday anniversary, Sturges has become one of the symbols of Ohio Wesleyan lore, growing in tradition with each passing year. The years have taken their toll,

however, for after serving the needs of the war period (its fourth war, too!) it was apparent that something had to be done.

Architect Rollin L. Rosser, Dayton, Ohio, was called in to study the building's potentialities. Wartime construction difficulties and material shortages



In old Sturges an ornamental iron fence protected rare book alcoves.

determined the course of procedure and the definite need for a home economics center resulted in the building being redesigned for such a purpose.

With the opening of the fall semester last September, students had their first look at Sturges Hall in its new dress and in its new capacity. Still the picture of modified Greek styling, the building has a quaint charm that adds a note of real loveliness to the walk from University Hall to Edwards Gymnasium. The ornate woodwork and rosettes are gone but the columns are still there and the entrance looks the same but surprisingly new with all its quaintness.

A touch of glass brick and fluorescent lights add other bits of newness. The circular staircase is gone and in its stead is a dignified marble stairway that adds stateliness.

Sturges Hall now has four floors of well planned home economics facili-

ties. On the ground level, two large classrooms are available, each seating 75 students. In addition, there will be a nutrition laboratory completely equipped for advanced study. The first floor provides the extras that make the department such an excellent one: the grooming seminar with its mirrored walls, the home living laboratory, the kitchen of the future, the pleasant family relations seminar and the comfortable library and reading room—all these plus a cheerful main office.

The open marble stairway to the second floor leads to two attractive food laboratories, each accommodating 20 students and completely equipped with new appliances in individual work units. A demonstration platform adds to laboratory efficiency.

A serving seminar with the atmosphere of a pleasant, well planned home dining room contributes to the practicalness of home economics training at Ohio Wesleyan. This completely equipped dining room provides serving experience for the students and will, no doubt, be the scene of many committee meetings in coming years. More foods staff offices are included on this floor in addition to dressing rooms and student lockers.

The third floor, accommodating 50 students, is devoted to clothing laboratories with attractive settings that lend new dignity to training in this field of study. A display hall, locker rooms and clothing office, also on this floor, round out the building. Scattered throughout the structure is a feature often missed in home planning, plenty of cupboard and closet space. Yes, women helped plan Sturges Hall.

The department not only is well equipped with modern home appliances but is staffed with an experienced group of faculty members headed by Lelia Massey. It provides carefully planned courses to train students for careers in home economics or for practical home building and home living.





Above and Right:  
Old and new  
Sturges are not un-  
alike. The modified  
Greek style of  
building has been  
blended with pres-  
ent day design and  
conveniences. It is  
dignified, stately.



Sturges now serves  
as a home eco-  
nomics building.  
Below at left and  
right are shown a  
corner of the mod-  
ern foods labora-  
tories and a  
view of the cloth-  
ing laboratories.



## MUCH DEPENDS UPON THE

# Architect

A. V. McIVER

Architect, Great Falls, Mont.

THE RELATIONSHIP BETWEEN TWO professions such as education and architecture is intangible and difficult of description.

Education and architecture were perhaps the first two professions. Experience no doubt was the first teacher and common shelter, the first project in architecture. We have come a long way since then and today both professions are highly complicated.

The member of the college board during his tenure in office joins the honored profession of education. He must now apply his knowledge of business to a new purpose, that of the welfare and education of the college student. Likewise the architect in his approach to college design should remember that the student's well being is of paramount importance and that all else is secondary.

If the person about to become a college trustee and the architect about to design a college plant or building cannot reconcile themselves to this fact, they are ill fitted for the task before them. It is assumed that the college president and the business officer recognize this obligation to the student in their professional capacities.

### FINDING COMMON GROUND

Having acknowledged this basic factor in planning, the welfare and education of the student, the three groups are on common ground and with a common purpose.

Many know little of the business of architecture. They are unacquainted with the architect's purpose and background, his service, methods of operation, ideals and professional charges. Let us outline briefly his purpose and methods.

I prefer to think of architecture as the reflection of life in the mirror of civilization. Looking back through the history of civilization, we see the aspirations of the people reflected in their architecture. There is scarcely a human activity that does not contemplate a building.

The prominence of buildings gives them a distinct influence of environment over those who see and use them. Yet architecture within itself is purely subjective, a creation of the people rather than the quality of design itself. The great cathedrals of Europe were not the forerunners of the Renaissance. Rather, they followed as the material translation of the Renaissance in the spirit, the will and the ideals of the people.

Educators then must decide what, why and how they are going to teach and from these answers determine the functions of the college and its plant. It is then up to the architect to translate these findings into a material entity of beauty and utility, namely, into good architecture.

The architect is then the interpreter of the educator's ideas and hopes. As such, he must be versed in law, engineering, geology, mineralogy, transportation, economics, philosophy and psychology.

In his daily practice, the architect needs the ability to analyze, to use his hands and to create. These talents indicate mental alertness, manual dexterity and a sensitiveness to good design. From his elementary and high school days, the prospective architect should gain an active and disciplined mind. In his college years, he studies design and construction, along with parallel courses in general education, for four or five years and most likely through one or two summer schools. This study leads to a bachelor's degree.

The young architect then enters an architect's office to acquire a knowledge of office practice, business methods and specification writing and, incidentally, to earn a livelihood. He must next pass an examination before a state board of architectural examiners. These examinations last three or four days and constitute a fairly complete test of the candidate's competency. This examination is required in all but six states, three in New England and three in the West. If the

candidate passes, he is privileged to call himself an architect and is licensed to practice.

The collegiate schools of architecture have an association that compares information of common interest and maintains standards of teaching set up by the National Architectural Accrediting Board. At present there are 37 schools of architecture in the association and accredited by the board.

The young architect next comes to another group, the National Council of Architectural Registration Boards, the chief function of which is to standardize license examinations throughout the nation and to provide a system of reciprocal licenses among the states. This indicates the extent to which the profession and the colleges have gone to ensure the public against incompetent practice.

Among the national professional societies, the American Institute of Architects stands in the forefront with the professional societies of law, medicine and engineering. It was founded in 1857 for the purpose of elevating the architectural profession and perfecting its members practically and scientifically.

### ETHICAL CONDUCT

Its "Handbook of Architectural Practice" is the bible of the architect. The institute has established codes of ethics, formulated contract documents, set up methods of regular competition, fostered scholarships and awarded medals for distinguished merit.

The code of ethics or, more properly, "The Principles of Professional Practice," was established as a guide to the profession's proper relations with the public and the building industry. The code defines those elements of conduct which serve as a safeguard for the important financial, technical and esthetic interests entrusted to architects. Most architects today are members of the institute; its code is well established and its contract documents are recognized by the courts.

The architect's professional services consist of holding the necessary conferences; preparing preliminary studies, working drawings, specifications, detail drawings, the structural and mechanical design; drafting forms for proposals; taking bids and preparing contracts; checking shop drawings, inspecting models, issuing certificates of payment, keeping accounts, administering the business and supervising the work.

On structures of conventional character the proper minimum commission for complete service, based on the total cost of the work, is 6 per cent. On structures requiring special skill and prolonged study or where the cost to the architect is high in proportion to the project cost, the fee is properly higher than the basic minimum fee. This, however, usually applies to monumental and residential work, decorative and cabinet work, landscape features and alterations and additions to existing buildings.

#### HOW FEE IS PAID

Payments to the architect on his fee are made usually as follows:

1. Upon completion of the preliminary studies a sum equal to 20 per cent of the basic fee, computed upon a reasonable estimated cost shall be paid.
2. Upon completion of specifications and general working drawings a sum sufficient to increase the payments on the fee to 75 per cent of the basic fee shall be paid.
3. From time to time during the execution of the work and in proportion to the amount of service rendered, payments shall be made until their aggregate equals the basic fee.

Some offices still adhere to the older practice of paying one sixth of the fee upon completion of preliminary sketches, three sixths upon completion of the working drawings and specifications and two sixths paid monthly upon contractors' estimates during the progress of the work.

Extra costs, such as travel and consulting fees, in the interest of the owner and requested by him are due as incurred.

The contract terms, as outlined, are those mostly used throughout the country. Another form of contract is becoming popular in the eastern states and in California, namely, the fee plus cost system. It is particularly adaptable to large work or work of repetitive character.

#### From the Architects' Code —

1. An architect should not guarantee an estimate. If he does so, he becomes legally responsible which, in turn, affects the quality of his advice to his client.
2. An architect should not use free engineering services sometimes offered by manufacturers and jobbers of building materials because of the implied obligation which may become detrimental to the best interest of the owner.
3. An architect should not compete with a fellow architect on a basis of professional charges. A schedule has been established which has been found to be fair and proper for complete service. An architect's charges for service shall be made to the client only.
4. An architect should not have investments or business interests which will tend to weaken or discredit his standing as an unprejudiced and honest adviser acting in his client's best interest.
5. An architect will take no part in a competition which does not include the provisions which experience has found to be necessary if the best interests of owner and architects are to be safeguarded.

In this form of contract, the owner agrees to pay all costs incurred by the architect in performance of his duties in addition to a flat fee agreed upon beforehand. The architect keeps an accurate accounting of all costs incurred plus a certain percentage for overhead costs.

Usually the flat fee is divided into equal monthly installments and the costs are paid monthly as incurred. This, however, is fairly burdensome for small and medium sized work. If, however, an owner desires such a contract, I can see no reason why an architect should object to it.

The matter of supervision is sometimes a source of misunderstanding between an owner and an architect unless they thoroughly agree at the start of the work. The architect will endeavor to guard the owner against defects and deficiencies in the work of contractors but he does not guarantee the performance of their contracts. He cannot, because he cannot guarantee the work of others.

There is seldom a structure built which requires full time supervision to obtain the work as drawn and specified. It is necessary during certain stages and is given by all competent offices. If the owner feels that continuous checking of material and workmanship is necessary, however, a clerk-of-the-works acceptable to both owner and architect is engaged by the architect at a salary satisfactory to the owner and paid for by the owner.

The selection of an architect is perhaps one of the first problems in a new college building program. The

simplest way to engage an architect is by direct selection. He is chosen much as any other professional man would be, namely, for his standing in his profession and his community, his ability in his field, his practical efficiency, business capacity and good judgment. The relation with the architect must be founded on mutual confidence and respect so that he can render the highest quality of service.

Another method of selection is by competition. This method is established by the institute for cases in which the client cannot, for some reason, or does not desire to, make a direct selection. The method of competition under the "Principles of Practice" is exacting and sometimes takes months to accomplish.

The client or owner does not make the selection himself but delegates it to a competition jury and agrees to employ the architect whom the jury designates. A professional adviser is necessary to advise the client and conduct the competition. The adviser writes a program of the competition which constitutes a contract between the client and the competitors. The drawings are submitted anonymously and the jury makes its decision without knowing the identity of the architect. The winner becomes architect.

Members of the institute are not permitted to enter competitions unless they are conducted in this manner. Their membership is placed in jeopardy for entering irregular competitions. Few selections of an architect are made by this method because of the expense and the time it requires.



# THIS WAS THE ARMY, MISTER JONES

It isn't worth starting another war but a tour of duty in army procurement would teach a purchasing agent how not to perform as well as how to perform

HAROLD MUTISPAUGH

Purchasing Agent, Rollins College

AT THE RISK OF APPEARING facetious, I would say that the four basic principles I learned in the army, which were necessarily a part of the curriculum, were as follows:

1. Never volunteer for anything.
2. Submit all reports in quadruplicate, keeping a fifth copy for later use in furnishing a duplicate set.
3. The army wants action. Do something even if it is wrong.
4. There is a wrong way, a right way and the army way to do everything.

Seriously though, it is exceedingly difficult to take any three years of one's life and attempt to say what was learned because learning is primarily an association of ideas. Even when you think that you have learned something new it is often just a new angle or an improvement on an old way of doing things.

All during my basic training and particularly later while doing contract termination and procurement work, I never ceased to wonder how such a large organization as the army, which made so many mistakes, could negotiate the maze of red tape and accomplish such great things as it did. In trying to analyze this success it is possible that a few general observations might in one way or another be useful to officials of educational institutions if only to induce a modest amount of self examination.

## NO ONE-MAN DEPARTMENTS

In my opinion the army's secret of strength was due to the combination of good organization and basic principle No. 4 which the G.I.'s called the "army system" for a polite short.

It is out of style for modern battles to be lost for want of a nail, not because jeeps are used instead of horses but because more attention is given to organization and training. It was par-



ticularly true of our army in the recent war that each man was well trained in a job he was suited for. At the same time he was able to step into the shoes of the man above him on a moment's notice under adverse circumstances without appreciable loss of leadership or efficiency.

Contrast such organization with the lack of flexibility and efficiency of the one man businesses and the one man departments you may have observed in private industry or even in your own institution and you will recognize the lesson to be learned from the army system. Delegation of authority and training of assistants are marks of a good administrator whether he happens to be a college president or the head janitor.

The unprecedented demand for higher education by former servicemen is not primarily because it is free but, rather, the result of an awakening in the men of the desire to do something bigger and better than the past seemed to offer. Entering military service for the average G.I. was essentially entering school. Many either had given up hope for advanced training or had never fully realized its advantages.

It is true that the army did frustrate a few good truck drivers by trying to make cooks out of them but, on the whole, it did an excellent job in the handling, training and placement of its men. Having gone through the equivalent of the infantryman's basic training, followed by a Cook's tour of ordnance, I feel fully "qualified" to certify to the fact that there definitely

is an army way of doing everything and what's more there is a manual covering the subject in detail.

In fairness to the system, I should add that although you are shown the accepted way of doing a job you are also encouraged to improve on the army method if you can and provided you do it through channels. I had the dubious pleasure of being assigned to two jobs which, because of their newness, were not bound by accepted procedure. In each instance, however, I was soon called upon to write a job analysis for the next incumbent.

If personnel relations and training can mean so much to the army and to industry in general, it behooves all of us to see what improvement can be made in our own organizations. I have heard that labor unions have forced a few educational institutions to take more interest in their nonacademic personnel. Why wait to be forced into something good?

## ALL DEPARTMENT HEADS TEACH

Training is not the only personnel problem to be solved but its intelligent handling will do much to assure desired results. Every department head and official should be a teacher as well as an administrator and each employee should receive a thorough indoctrination in his job and in its relation to the operation of all the other departments. It would be carrying things too far to adopt the army system with all of its appropriate manuals and directives but we should not lose sight of the benefits which can be derived from job and department analyses.

I cannot speak from actual experience on how battles are won or lost—my combat duty was limited to crawling up a poison ivy knoll at Aberdeen, Md., to attack a machine gun nest with a mud ball grenade. Nevertheless, we were taught that every engagement should be based on a studied plan

made in a conference of the unit leaders involved. Such plans even included the course of action if the mission failed. The correlation is a little far fetched but it will serve to illustrate that too seldom do the "brass" of educational institutions get together at the proper time and co-operate in planning their "battles." Business managers and treasurers can appreciate the adaptation of army tactics in their own struggle to plan a budget and keep it balanced.

My respect for the Yankee businessman and my admiration for the American worker increased considerably as a result of my principal assignment in army procurement. After learning what every good soldier should know, from how to disarm an attacking Jap to how to strip down and assemble a machine gun in the dark, I was told to report for an interview with a Pentagon colonel for my first assignment.

In the middle of my telling him which battle front I preferred, he shielded his eyes from the glare on my new gold bars and said, "Lieutenant, you must have misunderstood me; I asked where you were from, not where you wanted to go." Since I was from Florida, it was a foregone conclusion that I would draw a cold climate so I was assigned to the Springfield Ordnance District in the heart of the industrial area of New England. The next twenty-two months covered a most interesting experience in procuring everything imaginable and a few things quite unimaginable for the artillery and tank-automotive branch.

#### USE OF PRICE ANALYSIS

My primary job was to decide what price to pay for each item purchased and to assist 15 civilian negotiators in placing contracts accordingly. A good method of establishing a price on some items would have been by gazing into a crystal ball but the required method was one called "price analysis." The objective of price analysis in the army was to obtain all the material needed, of the right quality and on time, at close prices which were neither high nor low enough to discourage increased production and operating efficiency.

The method varied as to conditions but it consisted basically in an examination of all of the factors that entered into the cost of making an item. Except on small orders of standard commercial items, it was not considered sufficient (at least not in the later stages of the war when Congress began to take more interest in how money was being spent) merely to ask for comparative prices and pick the lowest capable bidder.

At first, many manufacturers balked at the invasion of their accustomed practice of dealing their cards close to their chests. They soon considered army methods a safeguard as well as a necessary evil, however, and were much less reticent about giving such information as material and labor costs, overhead rates, past profits, plant capacity and other confidential corporation data.

#### ADJUSTABLE CONTRACTS

Arriving at right prices any time is a matter of sound judgment but judgment can be no better than the facts upon which it is based. For this reason it was found necessary at times to make use of certain types of contracts in army procurement. These contracts contained a provision for the periodic adjustment of price based on a study of actual experience on those items when such factors as lack of experience in making the item, insufficient knowledge of costs and extreme uncertainty of ultimate specifications made it impractical to set an initial firm price.

The use of price analysis and adjustable contracts in military procurement served to take the guessing out of army buying. They were also of great value in creating an artificial spirit of competition during a time when normal competition had ceased to exist and careless or short sighted manufacturers were prone to fall into the habit of ignoring the need to

operate as efficiently and cheaply as possible.

Probably no manufacturer would submit to the degree of examination of his normal business that was found advisable in his recent war contracts but most of them appreciate the fact that intelligent analysis is essential to good buying as well as to good selling.

It is virtually impossible, as well as impractical, for educational institutions to attempt to apply price analysis in the army sense to the bulk of their purchases. The larger schools which make substantial purchases of single items and often by their own specifications, however, could and should make a closer examination of the various elements that go to make up the quoted price.

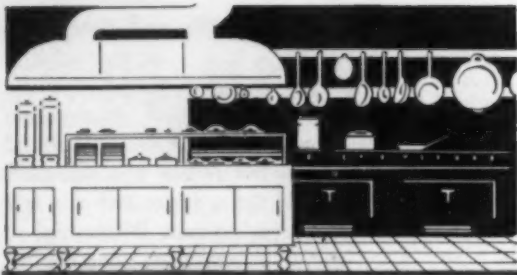
#### IN PURCHASING SERVICES

This purchase of services is a fruitful field for analysis. It can be illustrated by a recent application made by a northern university which periodically contracted for the painting of its buildings. Last summer it asked for a breakdown of the quotation into material, labor and scaffolding and it found that the last named item was no small part of the total cost. As a result, the school decided to buy its own steel scaffolding and change the basis for contracting with a resultant saving that is proving to be highly worth while.

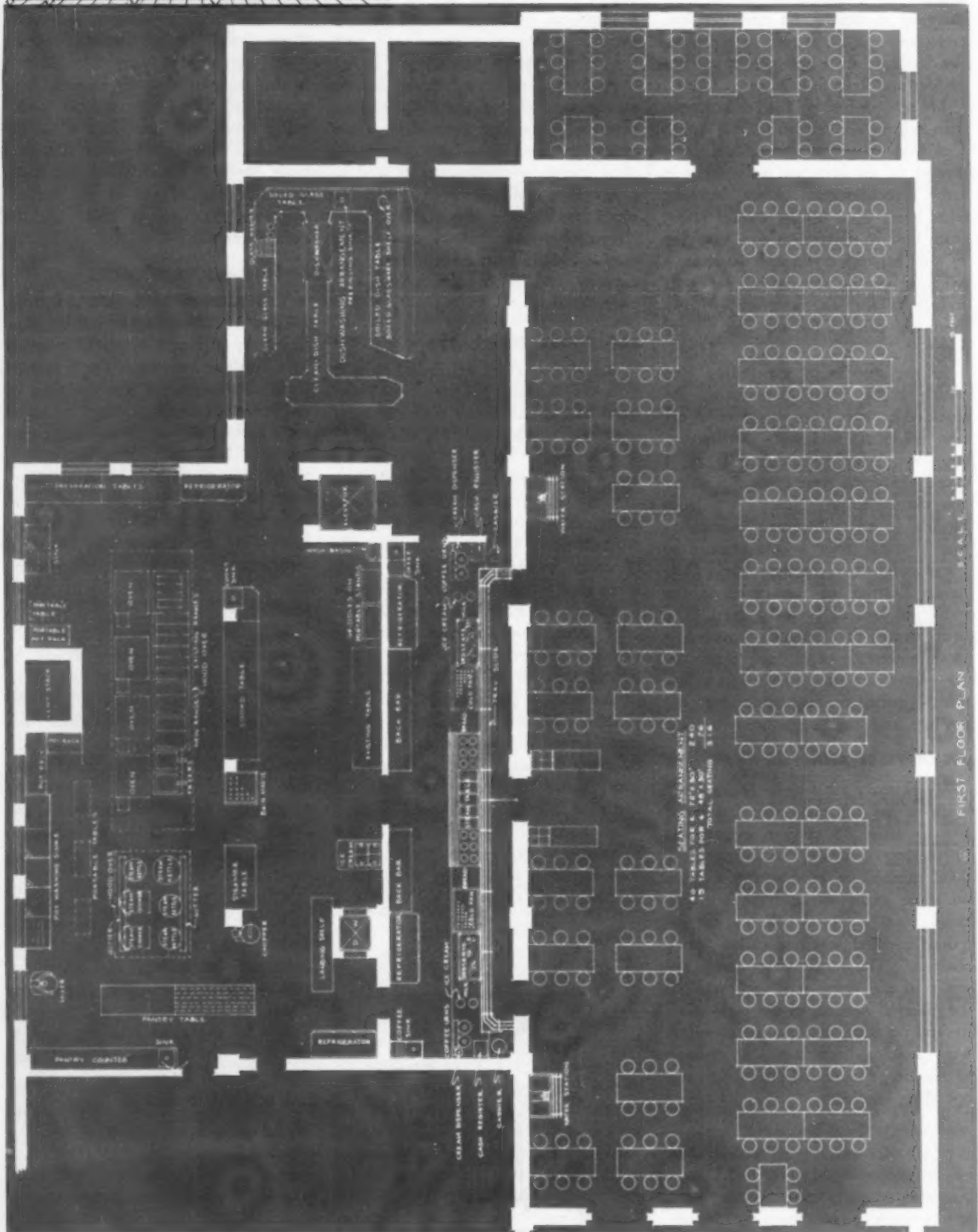
Whether you are buying material or services, an honest effort should be made to buy at close prices. In its simpler form, price analysis might consist of your own or your engineer's detailed estimate of what an item or a service should cost. When, in addition, this information can be used to check against the seller's own substantiation of his price, you can feel more assured that the price quoted is both fair and reasonable.

Although it isn't worth starting another war, I could heartily recommend a tour of wartime duty in army procurement for college and university purchasing agents. The lesson one learns in how *not* to do things is almost as useful as learning how to do them but that is another story. As I am still in the army reserve, it had best not be told here.





# SO WE MODERNIZED





# THE

# Commons

**SELMA STREIT**  
Director of Food Service  
State College of Washington

LAST YEAR THE ADMINISTRATION OF the State College of Washington, like most others, faced the immediate problem of preparing for a greatly increased enrollment. Because the State College of Washington is situated in a small town, its problem was even more acute. The college had to care for more than 80 per cent of its students in residence halls and in the various group houses, for the town did not have the facilities to absorb any appreciable percentage of the students.

When it became apparent that it would be necessary for the college to more than double its capacity for housing and food service, plans had to be made quickly to provide for the additional thousands of students.

The program for permanent buildings—library, college union, classroom, dormitories—postponed during the war years had to be interrupted so that all efforts could be concentrated on providing living facilities and having them ready for students at the beginning of the semester.

Buildings of the temporary type, found in the war and defense areas, were obtained from the Federal Public Housing Administration and from other governmental agencies that came to the rescue of educational institutions. Plans were made, sites prepared, contracts let to bring in the buildings

and to re-erect them on the campus. Thus the work for expanding the housing facilities was started.

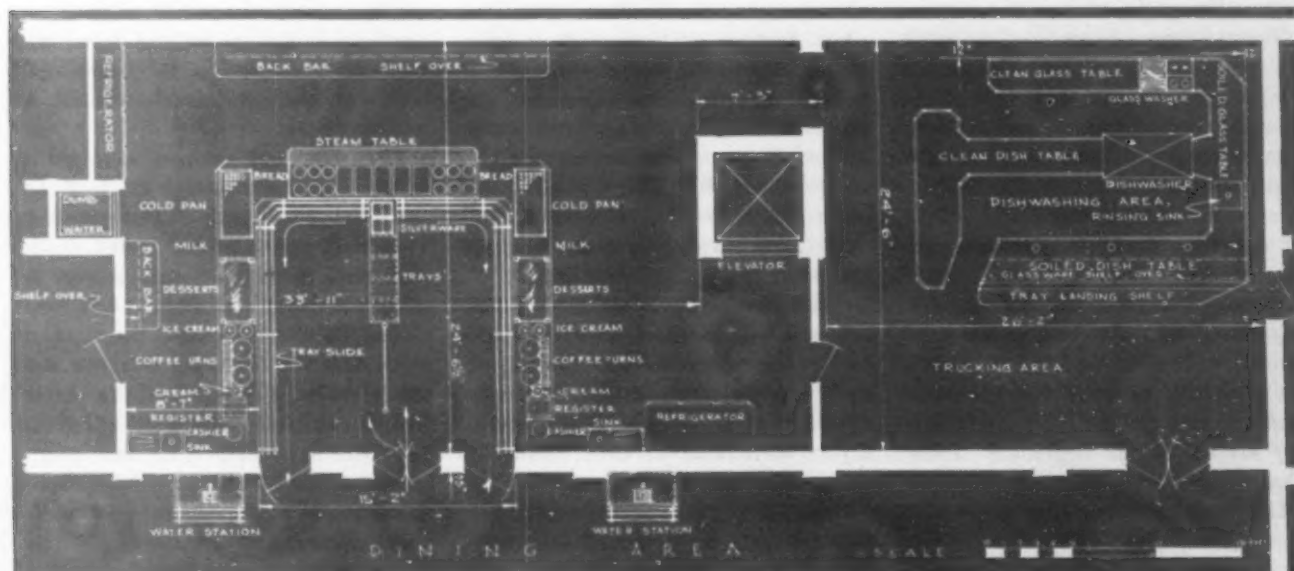
Dormitory type of units to house 2000 single men were used and also several hundred apartment type of units and prefabricated houses for married G.I. students and faculty families. Besides these, Quonset and Butler huts, used for storage, offices and classrooms, mushroomed over the campus. The usual trailer camps were established near by and the town began its own building program of homes to help care for the additional families moving into town. The existing nine campus dormitories were checked for space and enough additional furniture was sent so that each dormitory could house its maximum number of students. The college food service, of necessity, had to keep pace with the housing development.

In planning for the quick expansion of the college food service from 1200 to 3300, several possibilities were investigated: (1) moving temporary mess halls, with their wartime equipment, from government camps or defense areas and setting them up on the campus; (2) building additions to enlarge the present kitchens and dining rooms; (3) replanning, rearranging and remodeling the existing food service facilities.

Army camps, navy bases and defense areas in the Northwest were visited to investigate the available mess halls. At the same time, college facilities were considered with the view to their complete utilization. The long range expansion program of the college, with consideration of the various costs having been taken into account and the advantages and disadvantages of the different possibilities having been weighed, led the planning committee to recommend that existing food service facilities be replanned and reconverted to make them adequate for the expected increased enrollment.

To make the most efficient use of all the food service facilities, the program included substituting, even though reluctantly, buffet or cafeteria service for the customary table service and extending the serving periods to accommodate more students.

In the dining rooms for the seven residence halls for women, this practice was followed with the use of portable electric hot food tables for buffet service at breakfast and lunch. The hot food tables, equipped with rubber tired casters, are wheeled into the dining rooms. Here, the food is kept hot during the longer serving periods. An exception is made of the dinner period when women students are given table service by arranging



for two separate seating periods in each dining room and thus retaining a semblance of normalcy for the women.

The one big problem, however, was to replan and remodel the college Commons in order that 2000 students could be fed there at each meal. The Commons was planned in 1923 to care for 700, the maximum number that could be given family style table service in the two large dining rooms on the first and second floors. A smaller dining room on the second floor was used for "special" dinners and parties. During the army program a peak load of 1200 air cadets was fed cafeteria style from the cook's table in the kitchen. The problem now was to feed 2000 men at each meal but without regimentation and army supervision.

The reconversion program at the Commons was planned from a long range point of view and is definitely a permanent change rather than an emergency or temporary one.

#### **STRUCTURAL LIMITATIONS**

An old building presents certain limitations which are inevitable. They must be accepted in any remodeling program. In spite of these limitations at the Commons there was much with which to begin. Accepting the restrictions of existing bearing walls, elevator shafts and other permanent installations, space and equipment were planned with a view to procuring efficiency through correct placement and proper routing sequence. To meet these needs, fabricated stainless steel equipment was specified as well as the best type of available manufactured equipment and labor saving devices on the market.

Time, however, was another limiting factor. It was necessary to expedite the planning and the execution of the plans for remodeling. Less than four months remained from the time the administration accepted the recommendations until the opening of the fall semester. Even under normal conditions four months would have seemed inadequate to finish a remodeling job of this sort but, in spite of limitation of time and other factors, the work had to be completed sufficiently to care for the 2000 men when they arrived at the beginning of the school term.

The work of drawing up plans and specifications was accelerated. Then came the stumbling blocks! Contrac-

tors were reluctant to bid either on remodeling the building or on furnishing the specified equipment in the time allotted. Fluctuating prices, national strikes, scarcities of materials and shortages of labor left them hesitant.

#### **RACE WITH TIME**

Since the Commons had to be ready at the opening of the fall semester, however, it was imperative to begin the remodeling of the building immediately. The college assigned one of the top maintenance men to the job, with full authority to have the structural changes made and the work completed. As far as the college was concerned priority was given for labor and material. Subcontracts were let for much of the work: soundproofing in the dishwashing rooms, quarry tile on the floor in the new kitchen and serving area, asphalt tile to replace worn wood floors on the first floor corridor and dining room, ventilating system for the serving rooms, construction of the rooms for frozen foods, installation of compressors for the refrigeration, the addition of a water softener, the installation of intercommunication and public address systems and the painting of the entire interior of the building. All the work of these contractors had to be coordinated to expedite the remodeling in order to have the building ready for the equipment when it arrived.

Even though equipment supply companies hesitated to bid on the specified fabricated stainless steel and other equipment, it was possible to have much of the work start under contract. Other sources of supplies were checked and some equipment was obtained through F.P.H.A., army and navy surplus and through regular channels from the manufacturers.

In remodeling the Commons the problem was to arrange the space, limited by structural design, and the equipment so that 2000 students could be fed at each meal without having them stand in long lines and without extending the serving time unduly.

With the doors to the dining area at one end of the room, much thought had to be given to the routing of traffic. Some cross traffic, however, was inevitable. Even with the necessity for larger aisles an effort was made to increase the seating capacities of the dining rooms. Narrow tables (32 inches wide), with tops of laminated phenolic insulating material, were sub-

stituted for the wooden top tables (42 inches wide) that had been designed for table service and tablecloths. By substituting these narrow tables, more people could be seated and, at the same time, ample aisle space was allowed.

To conserve all the seating space possible and yet not mar the attractiveness of the lovely dining rooms, the serving areas for the cafeteria counters were kept out of these rooms. On the second floor the original serving pantry was used but on the first floor the space for the cafeteria counters had to be taken from the original kitchen area. The serving areas were equipped with stainless steel cafeteria counters designed to fit the space available. Stainless back bars with shelves above and large reach-in electric refrigerators were installed behind each counter. Electrical connections in the counters make it possible to use portable electric grills in the serving area.

#### **DISHWASHING PROBLEM**

Previously dishes had been taken by elevator from the second floor to the first to be washed. To avoid overtaxing the one elevator and to facilitate dishwashing, an additional area for this operation was arranged on the second floor. The accompanying plan shows the layout designed for this limited space. The hallway and part of the private dining room were used for this purpose. The other part of this small dining room was used for the linen room.

The dishwashing area on the first floor was enlarged by including a former office next to it. Inasmuch as the elevator opening could not be changed, enough space between the dish tables and the elevator had to be allowed for food trucks to go to and from the kitchen. This plan is far from ideal but, with the limitations imposed, it was necessary.

Few structural changes were made in the basement although much of the area was reassigned and rearranged. Two walk-in rooms for frozen foods were built in the cold storage area. A refrigerated walk-in storage box was placed in the vegetable preparation room near the receiving entrance and the elevator. Tables and an extra double vegetable sink were added to this room in order to give more preparation space. The old salad preparation room was made into an additional locker and restroom for the women employees. Sectional lockers for



men student workers were built into a catch-all space that had been used for empty barrels, boxes and other discarded items.

The bakery, with only slight rearrangement, was adequate for the increased load. When the equipment is available a new dumb-waiter will be installed to expedite sending bakery items to the floors above.

Additional storage space was needed and so a Butler hut equipped with light and heat was erected near the delivery entrance of the Commons with a "snow free" connecting walk.

The kitchen on the first floor was the area that required much thoughtful planning. The serving area was deducted from and the pantry area added to the kitchen to give it ample space. Cooking for the additional numbers, plus the salad preparation that was brought upstairs to the pantry section, increased the kitchen load tremendously. Space, even though limited, had to be used and equipment placed so efficiently that food could be supplied to the four cafeteria counters without difficulty.

The office for the Commons dietitian was put at the front of the building. A plate glass wall between the office and the kitchen facilitates supervision of the kitchen.

#### **STRIKES, DELAYS, SCARCITIES**

In spite of strikes, delays and scarcities, the structural changes were made in time to use the first floor dining room of the Commons for the opening of school.

During the first week, from 1200 to 1500 were served at each meal on the first floor and there were LINES! After that, however, with the cafeteria counters installed on the second floor, both dining rooms were used and the long lines eliminated. Although some of the equipment has not yet arrived, the work goes on with the use of make-shifts.

The college administration was most cooperative in helping solve the peak load problem. Classes were scheduled throughout the day from eight until five and again in the evening. With an hour and forty-five minutes for each serving period the cafeteria counters and the dining rooms are ample to care for the student load.

The college Commons has been modernized and arranged to care for 2000 students adequately and comfortably at each meal. It has been equipped with beautiful, permanent,

well designed and constructed stainless steel equipment and all has been done with less cost to the college than the estimated cost of erecting on the campus a temporary type of mess hall with its wartime equipment.

In spite of the difficulties and disappointments encountered in remodeling an old building with all its limitations, the results achieved in our Commons reconversion program are gratifying.

## **KEEP STUDENT RATES DOWN BY CONTROL OF FOOD COSTS**

**MARY deGARMO BRYAN**

Head of Institution Management  
Teachers College, Columbia University

ALL COLLEGES ARE FACED WITH difficult problems in connection with their food services. Rising costs for food and equipment and rising wages increase cost of food for students; at the same time there is no reason to believe that individual student incomes have increased to any appreciable extent or that they will even remain at present levels.

Raising prices for board is, therefore, a dubious procedure. It may well result in decrease in food consumption by the students, an effect to be avoided at any cost because of the vital requirements of adequate food intake for health and scholastic efficiency.

Maintenance of charges at approximately present levels is, therefore, the goal of college administrators. This may be done at the expense of quality and quantity of food, a most undesirable practice. Or, the goal may be approximated through good management procedures.

The first of these procedures is a simple but adequate system of food cost control. Such control begins with buying at competitive prices on a basis of exact specifications so as to control quality. Quantities purchased are determined by standardized recipes and portions so that waste is kept at a minimum. On arrival, all food is inspected for quality and weighed. It is issued from stores on signed requisitions based on production orders which are, in turn, based on the standard recipes yielding a definite number of portions of specified size.

Supervision of preparation and service by trained persons assures the production of good food and its service in an attractive form. Spot checks

on portions served and counts on bakery and similar items serve as a check on production orders.

All requisitions are costed daily so that the manager has immediate knowledge of her food cost on a total and per meal figure for the day. The percentage for the day and to date is kept as a running guide on food cost and on the total cost since most other operating expenses are relatively fixed.

The food cost percentage established by the college as required for self sustaining operation will, of course, depend upon the financial policy which determines the expenses that must be carried by sales. For example, because food service in a college is an educational feature of the college program, a charge for rent is not usually made. Heat, light and power may also be provided as for any other classroom. With such a policy, the food cost of 50 per cent of income would be likely to permit carrying all other operating expenses without loss.

The food cost for the individual day will fluctuate according to the menu—one day slightly over, the next slightly under—but the percentage "to date" must be kept at the established figure and the menu adjusted accordingly.

In these days of high prices it is essential to know one's financial position at all times and to be able to control the situation because of this knowledge. No business can remain solvent that does not operate on this sound control of its product and complete and current knowledge of costs. College food services are large and important business enterprises.



# *Training Program* **FOR MAINTENANCE MEN**

**L. W. WINKEL**

Instructor, Janitor Engineer Training  
Kansas State Board for Vocational Education

MODERN SCHOOL AND COLLEGE buildings represent sizable investments of public or private funds. With proper care they should serve their purpose for many years. Yet, too frequently, the upkeep of these educational structures is assigned to janitor-engineers who are inexperienced, inefficient and without the technical knowledge required for proper maintenance.

Quite often a man is appointed janitor of a school because of political backing, pity, age or financial status. Even so, most janitor-engineers are conscientious and desire to do a good job but not every janitor recognizes dirt when he sees it in his building.

Finishes on floors, woodwork and furniture have been ruined because the janitor was not instructed in the proper cleaner to use, the amount to be used or the correct method of applying for a safe and satisfactory job.

One janitor, new on the job, used an inflammable cleaner on his floors. Fumes from the cleaner went through the building into the basement where there was an open flame under a hot water heater. A fire started and destroyed the building. If this janitor had been properly instructed, he would have known that inflammable materials are prohibited in school buildings and that there is a safer, quicker method of cleaning floors.

It is common sense to employ trained men to care for equipment costing many thousands of dollars. When trained men are not available, those hired should be given instruction and special training before they are given the responsibility of a building costing huge sums.

A Kansas educator once declared that "as long as students attend classes, it is our obligation to provide safe and sanitary study surroundings for them."

The tasks of the janitor-engineer are not simple. There are at least 65 different jobs that he is required to do, divided as to work to be done daily, weekly, monthly, bimonthly, semiannually and annually.

A training program for college janitor-engineers might well be patterned after the Kansas plan for public schools. For nearly twenty years, janitor-engineer schools of from two to five days have been held periodically at convenient points within the state. The courses that have been offered are as follows: Housekeeping I and II, Housekeeping Management (Planning Your Time), Floor Finishing, Heating and Ventilating I and II, Fire Prevention and Fire Fighting, First Aid, Electrical Theory and Care of Trees, Shrubs and Grasses.

## **BASIS FOR INSTRUCTION**

The instruction given in these subjects should be based upon an analysis of what a janitor-engineer should know about the proper care of a building and a heating system. All instruction should include demonstrations to small groups, with all members then encouraged to practice under the supervision of the instructors until they thoroughly understand and can use the approved methods.

Besides the demonstrations and the supervised practice received at these schools, custodians receive information sheets in housekeeping and heating and ventilating prepared by the Kansas State Board for Vocational Education. There is a sheet for each of the 65 jobs that janitor-engineers in school buildings are called upon to perform. For example, separate job sheets have been prepared for the sweeping of rooms containing tables and chairs; those with tablet arm chairs or auditorium seating, and classrooms with fixed seats.

Each sheet provides a brief description of the job to be done, lists the standard tools and materials needed, followed by a list of standard operation steps. Each sheet is concluded with a series of cautions and warnings.

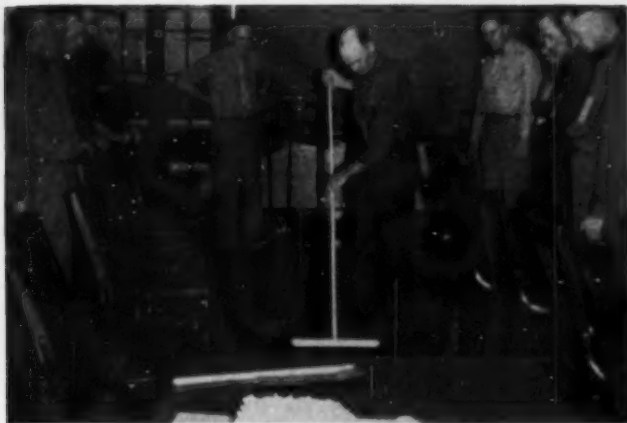
No brand names of materials are referred to in the information sheets or the demonstrations. Only the various types of materials are mentioned.

These sheets were written particularly for use in the janitor-engineer training schools. After the custodians have received their training, the job sheets serve in a reference capacity.

In making out a work schedule for buildings, custodians are encouraged to arrange activities so that no job need be neglected. It is suggested that, when possible, large jobs be broken into two, three or four tasks that can be handled during short periods of time. For example, it is customary in many schools to have the janitors spend days washing windows just before the school year begins, then most of the windows are not washed again until another holiday. Frequently September rains make the windows dirty and they remain that way until the Christmas vacation. If the weather permits, they are again washed but if the temperature is too cold, the windows may be dirty for the remainder of the school year. Through the proper scheduling of work, several windows can be washed each week, giving the school some clean windows all of the time. By the end of the school year all of the windows will have been washed several times.

The same method can be used on many of the large duties, making it possible to keep buildings clean from floor to ceiling at all times.

It is suggested that the head janitor-engineer, in addition to being skilled in all the jobs required to be done in the maintenance of buildings and



● Use of floor brush on untreated wood floor.



● Correct way to mop terrazzo floor.



● Lesson in floor sanding and sealing.



● Proper method of using treated floor mop.



● Electrical theory class in laboratory.



● Care of lavatories and fixtures.

grounds, be proficient also in supervisory work.

Since new employees are usually not added to the staff in large numbers at any one time, it becomes necessary to break in one worker at a time. This responsibility will naturally fall upon the chief custodian. This man, therefore, should be trained to instruct workers on the job. He should be proficient also in the skills of getting along with his fellow workers as an

aid in organizing a smooth operating force.

Any training plan will fail without proper followup. A plan of periodic ratings on cleanliness, care and upkeep of the buildings should be conducted at regular intervals by the head custodian. In addition, the custodians should be provided with check lists to permit them to rate themselves.

Underlying the training is the objective that men and women serving as

janitor-engineers should be taught methods that will enable them to obtain the greatest results possible from the time and materials allotted for their work. When this objective is accomplished, costs will be reduced; care and upkeep will be easier; appearances of buildings and grounds will be improved; dangers to health will be eliminated—factors which will contribute to the higher morale of everyone concerned.

# HOW MANY STUDENTS IN 1960 AND 1970?

Will the present boom in babies and G.I. prosperity be followed by a deep dip in the college enrollment curve?

**"Not necessarily so," says**

**NEWTON EDWARDS**

Professor of Education, University of Chicago

AT ANY GIVEN TIME AN INTRICATE combination of factors determines the number of youths who attend college. Among these factors are social attitudes, the availability of employment, the pattern of income distribution, the general level of economic well being, the programs of education which the colleges make available and past and present trends in population growth. It will be the purpose of this discussion to appraise one of these factors, the one last mentioned.

## PESSIMISTS' VIEW

In the middle 1930's, when the birth rate was low, elementary school enrollment beginning to drop and the rate of increase in high school attendance falling off, some felt that the time was not far distant when college attendance would reach a maximum and possibly begin to decline. Thus, in 1938 Provost Rufus D. Smith of New York University sounded a warning to American colleges:

"Tremendous expansion in enrollments in elementary schools during the last 50 years was followed by even more spectacular increases in high school enrollments; these expansions were followed by stupendous increases in colleges and institutions of higher education. Now, after continuous expansion, losses in the elementary school are reaching the high schools. Schools of higher education and colleges have a few years of grace before the secondary losses reach them."<sup>1</sup>

Writing about the same time, Julius B. Maller, in one of the volumes of the Report of the Regents' Inquiry (New York State), said in similar vein:

"The colleges will probably reach their maximum enrollment in 1943 and then will face 'a diminished human reservoir' from which to draw

because of the cumulative effect of the declining birth rate."<sup>2</sup>

Now that we have had a "boom in babies," are enjoying prosperity and have the G.I. bill, the prophets are taking a more optimistic view. The tendency in many quarters is to look forward to continued and unprecedented expansion in college attendance.

Such may well prove to be the case but trends in population may be expected to have the opposite effect during the greater part of the next half century.

For a number of decades the United States has been experiencing a declining birth rate. The annual number of births per thousand white women in the child bearing age, 15 to 44, dropped from 278 in 1800 to 130 in 1930. By 1940 it had dropped to 78 and the prospect is that by 1980 it will be as low as 60. The fact is that the small family system is being adopted to a greater or less degree by all elements of the population—native and foreign born, urban and rural, white and colored.

In 1940 we were barely having enough children to maintain a stable population even though the birth rate was higher than it had been in the early and middle 1930's. Nor can one regard the recent rise in the birth rate as a reversal of a long time downward trend. The high birth rate in recent years represents a borrowing from the past and the future.

We came out of the depression with a backlog of marriages and the war produced many marriages that normally would have taken place later. The fact is there has been little increase in third and fourth order births. The prospect now is that the birth rate will drop rather sharply again within

a few years, that the rate of population growth will fall off after about 1950 and that during the last quarter of the century we shall reach a maximum population and probably experience some decline in the total population.

It is an important fact that children and youths under 20 years of age will constitute, except for a relatively short period, a declining element in the population, both relatively and absolutely. During the decade ending in 1940, the number of persons under 20 decreased somewhat more than 2,000,000. During the '30's there was a marked falling off in the number of children of elementary school age and a peak was reached in the absolute number of young people of high school age. The reservoir of children and youths from which educational institutions at all levels draw their pupils and students was beginning to dry up.

## TEMPORARY UPTURN

The upturn of births in the late '30's and early '40's, however, changed the prospect, at least temporarily. Now the prospect is that children of elementary school age will increase by about 2,500,000 between 1945 and 1955. During the following decade (1955-1965), the number of children in this age group may be expected to decline. In 1965 it will probably be about 1,000,000 less than it was in 1945.

The number of youths in the high school age group may be expected to decline until about 1950 or 1955. During the following 10 years the number will increase but at no time may it be expected to be materially above what it was in 1940.

The number of youths 15 to 19 years of age will probably decrease by about 1,000,000 between 1945 and 1950, increase by 2,000,000 during the following decade and decline grad-

<sup>1</sup>Smith, R. D.: *The Population Curve Hits the Schools*, Survey Graphic, pp. 445-450 (Sept.) 1938.

<sup>2</sup>Maller, J. B.: *School and Community, Report of the Regents' Inquiry*, New York. The McGraw-Hill Book Company, 1939, p. 146.



ually after 1960.<sup>3</sup> The number of young persons of college age may be expected to decrease in the future except for a short period during which the children born in the late '30's and early '40's reach college age.

Differentiated fertility between states and regions and the rural and urban populations makes it necessary to interpret these data for the nation as a whole with a great deal of caution. In some areas reproduction is at a rate twice as great as in others.

Areas of high fertility are the Appalachian and Ozark mountains, the cotton belt of the Southeast, the Rocky Mountain states, the northern sections of the Great Plains, the cut-over lands of the Great Lakes states and northern New England.

The great area of low fertility extends from southern New England to Maryland and spreads westward from New York and Pennsylvania, getting broader as it reaches the Middle West and ending in southeastern Kansas and western Nebraska.

North of the Mason and Dixon Line, from Maine to Oregon, the birth rate in 1940 was high enough for family replacement in only two census divisions, the west north central and the mountain states. In the South, in contrast, the birth rate was materially above that required to maintain a stable population.

Rural-urban differentials in reproduction are equally striking. For 1940 the number of children under 5 years of age per thousand women, 20 to 44 years of age, was 310 in the urban population, 497 in the rural farm population and 648 among farmers. The urban population was having only 74 per cent enough children for family replacement whereas the farm population had a birth rate that would cause it to increase by 44 per cent about every 30 years. The extent to which youth of college age in a particular area decreases in absolute numbers will be affected by these differentials in fertility.

It is clear that, except for a relatively short period of years when the babies born in the late '30's and early '40's are of college age, the prospect for the nation as a whole is for a decline in the absolute number of young people of college age. The conclusion should not be drawn, however,

that a peak has been reached in college and university attendance.

The percentage of young people attending college in normal times is still small. Any marked increase in the percentage would, for a long time to come, more than offset the effect of declining birth rates. Many factors may well operate to bring about this increased attendance: the establishment of local junior colleges, federal or state aid to deserving youths, sus-

tained prosperity, an effective program of general and vocational education at the college level.

In my opinion there is a tendency in some quarters to overemphasize the effect of population change on college attendance during the next few decades. Certain it is that the number of youths of college age will not increase as in the past but it may well be that many more of them will attain a college education.

## CAN VETERANS LIVE ON THEIR GOVERNMENT ALLOWANCES?

TRIALS OF THE CAMPUS G.I. ATTEMPTING to meet the higher cost of living on his \$65 to \$90 a month allowance have inspired several studies.

Stanford University through its graduate school of business made a study of the financial status of 4150 veterans on campus. *Army Times* is completing a nationwide survey of subsistence allowances and veterans' essential expenditures.

Complicating the picture for both colleges and veterans is an impending crop of babies which on one campus alone will reach a total of 400 before the school year ends. In some cases the veterans' plight is desperate and many of them may be forced out of school unless help comes from some quarter.

### THEY DIP INTO SAVINGS

Stanford finds that the average single G.I., with his \$65 government allowance, spends \$120 a month, with \$90 as a minimum. Of this amount \$20 goes for recreation, on the average, and from \$15 to \$20 for rent. Of these veterans, 85 per cent are drawing on their savings; 30 per cent have outside jobs averaging twelve hours a week.

The married veteran at Stanford spends \$180 a month, with \$140 as a minimum. Working wives make up the difference between expenditures and the \$90 subsistence allowance. Each child in the family adds \$10 a month to living costs. When there are children, 75 per cent of the veterans

draw on their savings and 37 per cent work part time. Only 12 per cent of the wives can leave the children to help out the family budget by outside work.

According to the *Army Times* survey, the adequacy of the allowances depends on the location of the college, the availability of campus housing and the temperament of the veteran.

### WOULD ATTEND REGARDLESS

Of George Washington University veterans, 4903 of whom filled out questionnaires, 78 per cent would be in college regardless of the G.I. bill or other federal aid.

"If it is the intent of Congress to cover living expenses of vet students, increases must be voted to take care of increased costs," the *Army Times* finds in summing up the views of educators questioned. "But if it was the intent of Congress merely to give some aid to veterans in obtaining education and training, then it becomes largely a matter of determining what amount constitutes adequate aid.

"The consensus of educators who expressed an opinion was that 'adequate aid' should be sufficient to enable a veteran to obtain an education with a 'reasonable amount of sacrifice on his part.'"

At the University of Colorado, the student newspaper recently opposed an increase and thereafter received several "very strong letters" from veterans who took the stand that increased subsistence is not justified.

<sup>3</sup>Thompson, W. S., and Whelpton, P. K.: Estimate of the Future Population of the United States, 1940-2000.



EXTERIOR of plant on campus  
"far above Cayuga's waters."

## CORNELL HAS ITS OWN

# Water Supply

F. R. GEORGIA

Sanitary Chemist and Supervisor of Water  
Cornell University

How this widely known eastern university has solved its problem of water purification is told here with facts and figures that add up to an impressive total of valuable information. Today's modern plant is a far cry from the original wells but it will change, too, to meet increasing demands

CORNELL UNIVERSITY HAS ALWAYS had its own water supply. The first buildings were located on Ezra Cornell's farm and used wells as a source of water. Later, a reservoir was built and water pumped to it from Beebe Lake on Fall Creek. A water filter was located above the reservoir. In 1903 the city of Ithaca suffered a severe typhoid epidemic attributed to infection of the city supply and the spread of the infection to numerous well supplies. The city had grown about the university by then and many students lived in rooming houses supplied by city water or wells, with the result that a large number became victims of the epidemic.

As a result of the epidemic a filter plant was built to treat the city supply and Andrew Carnegie provided funds for the university to build a new plant. Water was pumped to this plant from Beebe Lake and fed to the old reservoir by gravity. The rapid growth of the university shortly made

it impossible to supply sufficient water from this plant and for a number of years the state colleges on the campus were supplied by the city.

The present plant was put in operation early in 1929 and has since provided for the needs of the university and a small adjoining village. Plans are now being made to enlarge this plant to meet the ever increasing demand.

### DESCRIPTION OF PLANT

The source of water is Fall Creek which has 125 square miles of watershed above the intake. The watershed is largely devoted to farm land and wooded areas but there are several small villages located along the creek and its tributaries. The stream receives no industrial wastes of any importance but is subject to considerable pollution from man and animals.

The minimum flow of the creek is several times the amount diverted and, therefore, an impounding reservoir is

not needed. A small diversion dam is located at the intake but does not provide any storage. This eliminates many of the problems that arise in connection with storage reservoirs.

The water flows to and through the filter plant by gravity after which it is pumped to a 1,000,000 gallon reservoir at sufficient elevation to provide gravity distribution throughout the system. A few buildings located on high ground employ booster pumps to obtain better pressure on the upper floors.

The flow through the plant is shown in the accompanying diagram. After passing a grit and screen chamber, the water passes through a constant level valve and into a mixing basin, then through the settling basins from which it goes through the filters and into the clear well.

The mixing basin contains over and under baffles and around the end baffles. With the present demand, this basin provides a forty minute detention period for the water. It is quite possible that mechanical flocculators will be installed when the plant is enlarged.

The settling basins were originally designed to operate in parallel but the water tended to short circuit through one of them. By making some slight changes the basins were arranged for series operation and much better results are obtained. The basins have a total capacity of about 400,000 gallons.

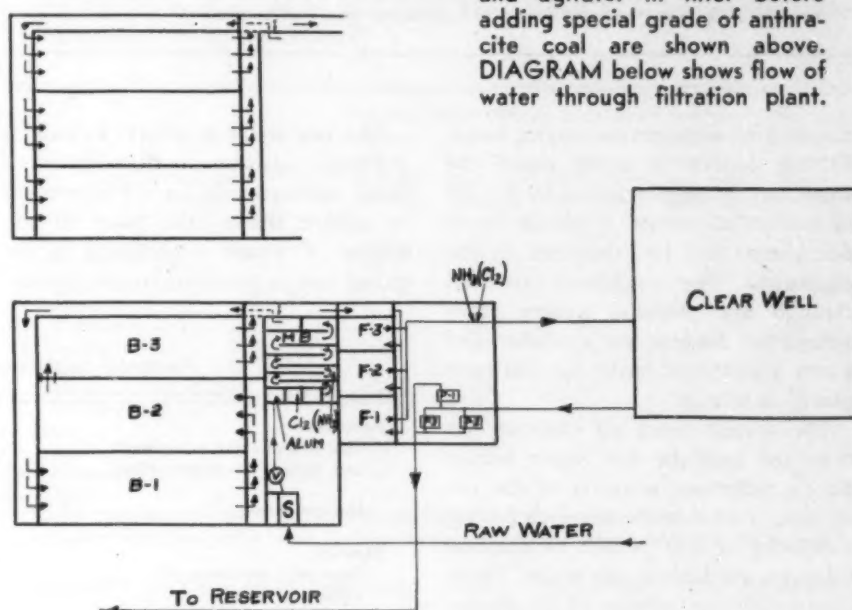
Three filters, each with a rated capacity of 500,000 gallons a day, have been operated satisfactorily at rates as

high as 650,000 gallons a day. The original design of the filters included a conventional pipe grid distribution system in the bottom with 18 inches of graded gravel and 30 inches of sand. All filters have been rebuilt at least once, one using the original design; another using a bottom that substitutes special slotted concrete blocks for the lower gravel layers, and the third with a porous plate bottom, a special grade of anthracite coal properly graded for size and an agitator for surface wash.

The third method of construction results in several advantages. By the use of porous plates to support the filtering medium, all gravel is eliminated; there is no classification of materials in the filter bed, and much



POROUS PLATE filter bottom and agitator in filter before adding special grade of anthracite coal are shown above. DIAGRAM below shows flow of water through filtration plant.



CONSTRUCTION of porous plate filter bottom is shown.

greater uniformity of wash is obtained. The graded anthracite coal weighs about half as much as sand and expansion of the filter bed during washing is more readily obtained. The agitator provides a surface wash with high velocity jets and makes it possible to keep filter beds really clean and free from mud balls. It is planned to rebuild our other filters and to construct any new ones in this manner.

All valves on the filters are hydraulically operated from control tables in front of each filter. Rate controllers on the effluent lines of the filters permit of manual control of the rate of filtration of each filter.

A clear well having a capacity of 250,000 gallons receives the finished water and serves as a sump for the

pumps that lift the water to a 1,000,000 gallon concrete reservoir. A contract was recently let for the construction of an additional 1,000,000 gallon reservoir to be built of steel and to be protected against corrosion by the cathodic process.

The pumps are located in the plant. There are three direct connected, motor driven centrifugal pumps. They consist of one single stage, double suction pump of 500,000 gallons a day capacity, a similar pump of 1,000,000 gallons a day capacity and a third two stage pump of 1,000,000 gallons a day capacity.

#### CHEMICAL TREATMENT

The coagulant used is filter alum and it is added to the water imme-



**Production and Operating Data**  
July 1, 1945—June 30, 1946

Water filtered.....	336,875,000 gal.
Wash water used.....	4,331,000 gal.
Ratio wash water to water filtered.....	1.28%

**Daily Averages**

Water filtered.....	923,000 gal.
Alum {Weight.....	256 lb.
{Dosage.....	1.94 gpg.
Ammonia {Weight.....	1.9 lb.
{Dosage.....	0.25 ppm.
Chlorine {Weight.....	34.0 lb.
{Dosage.....	4.41 ppm.
Turbidity {Raw water.....	15.5 ppm.
{Filtered water.....	none
Color {Raw water.....	19.0 ppm.
{Filtered water.....	1.0 ppm.
pH {Raw water.....	8.1
{Filtered water.....	7.1
Colonies/ml., 24 hrs. at 37° C {Raw water.....	850
{Filtered water.....	0.12
Coliform index— {Raw water.....	700
Most probable number/100 ml. {Filtered water.....	2.2*

\*Note: In the last eight years with daily testing of five 10-ml. portions from a daily sample, one sample gave three positive tubes on only one day during this period. On the same day all other samples of treated water were negative and it is probable that the positive tubes were owing to a contaminated faucet or faulty laboratory manipulation.

diately after it enters the mixing basin. During periods of heavy runoff the alum may be supplemented by the use of sodium aluminate to obtain better flocculation and less reduction of the alkalinity. The coagulants are fed through dry chemical feeders. Two volumetric feeders are available and a new gravimetric feeder has just been placed in service.

For several years all chlorine has been fed into the raw water immediately following addition of the coagulant. Two chlorinators, each having a capacity of 100 pounds of chlorine a day, are available at this point. These chlorinators are alternated in service so that one is standing by in case it is necessary to make repairs to the other. A third chlorinator of small capacity is available for chlorination of the filtered water but has not been used for some time. For several years super-chlorination of the raw water has been employed.

Ammonia is usually added through a special machine to the finished water just before it enters the clear well. As employed at this plant, the ammonia acts as a dechlorinating agent.

**PLANT CONTROL**

A well equipped laboratory is located in the plant; tests are run daily to assure proper operation and control of the plant. In addition, the operators are required to make residual chlorine determinations hourly on samples from four points in the purification process.

The raw water is subject to sudden and large variations in character when heavy storms occur on the watershed or sudden thaws take place in the winter. Constant supervision is required and is provided by the operat-

ing staff. A sanitary chemist is in charge of the plant and performs most of the necessary laboratory control work.

**PLANT OPERATION**

A chief operator and two regular operators work eight hour shifts six days a week and are relieved by another operator one day each week. The chief operator has been trained to do the routine control work and relieves the chemist one day a week and substitutes for him during his absence on vacation.

All of the members of the staff, except the relief operator who is paid by the hour, are given three week vacations and five regular holidays a year with pay.

In addition to this staff one or more of the engineers on the staff of the department of buildings and grounds gives part time service in connection with the distribution system. When needed, this department also provides the services of its various shops and common labor.

Some operating and cost figures are given in the accompanying tables. They are for the fiscal year ending June 30, 1946.

**Financial Statement—Water System**

	June 30, 1945	June 30, 1946
<b>Investment:</b>		
Cost of plant and equipment.....	\$296,033.15	\$296,276.30
Less reserve for depreciation.....	159,580.76	171,431.81
<b>Net investment.....</b>	<b>\$136,452.39</b>	<b>\$124,844.49</b>
<b>Expense:</b>		
Operating maintenance*.....	\$ 30,766.62	
Interest at 5½%.....	7,518.25	
Depreciation at 4%.....	11,851.05	
		<b>\$50,135.92</b>
<b>Income:</b>		
Dormitories.....	\$ 8,920.50	
Barton Hall.....	715.23	
State colleges.....	11,415.76	
Miscellaneous.....	5,268.87	
		<b>\$ 26,320.36</b>
University appropriation (net)**.....		<b>23,815.56</b>
		<b>\$ 50,135.92</b>

**\*Breakdown of Operating Maintenance:**

Salaries.....	\$11,559.64
Power (3 cents/kwh.).....	9,433.35
Chemicals.....	3,555.23
Fuel.....	841.32
Laboratory supplies, printing, etc.....	295.58
Plant maintenance.....	2,832.88
Distribution system maintenance.....	1,052.88
Miscellaneous.....	1,195.74

**\$30,766.62**

\*\*Note: Income is obtained from the sale of water as indicated. The academic buildings of the endowed colleges are supplied with water without charge. If all water were sold, the income would probably be sufficient to cover costs.

## CONTINUING STUDY OF OPERATING PRACTICE

Periodically, College and University Business asks a selected group of readers about a specific operating technic or method and publishes the findings for the guidance of readers in measuring their own methods.

### WHAT ABOUT PURCHASING?

Interpreted by  
**HENRY B. ABBETT**  
Purchasing Agent, Purdue University

IN INTERPRETING THE SURVEY ON trends in purchasing policy in institutions of higher learning, one must keep in mind (1) that out of 500 colleges and universities receiving the questionnaire, 27 per cent replied, (2) that the survey covered a cross section of colleges and universities and (3) that it is assumed that the replies represent a cross section of the institutions surveyed.

The purchasing function is a youngster in the administrative family, as to both its age and general acceptance. Some businesses have been slow to centralize purchasing, so wherever one does find purchasing established as a separate function one should expect to find a considerable variation in the authority and responsibility imposed. The results of this survey confirm such a conclusion. Too, the tabulation indicates that not a single institution responding is without some form of centralized purchasing procedure and that 98 per cent have almost complete centralization.

A majority of the institutions place considerable responsibility in the purchasing official. It appears that where full responsibility for selecting merchandise and completing the transaction is not placed in the purchasing official, the classification of goods is more highly specialized. This is a natural and healthy trend, for a purchasing official cannot be a master of all trades and must work and cooperate with his associates in the selection of the best items.

One must conclude that purchasing is an accepted function in our educational institutions and that the authority of the purchasing official is well balanced. Looking back over twenty-five years, the trend is unmistakably toward broader responsibility for the purchasing official.

1. To what extent do the purchases made by your institution clear through a central office?  
All purchases, 48%    Practically all, 50%    Very few, 2%    None, 0
2. In the typical instances listed below, what is the comparative influence of the purchasing officer and department head in selecting the brand of product to be purchased?\*

Types of Equipment and Supplies	Purchase Officer makes exclusive decision	Purch. Officer most important, Dept. Head suggests	Purchase Officer and Dept. Head about equal	Purchase Officer suggests, Dept. Head decides	Purchase Officer merely clears order
Janitorial supplies.....	25%	36%	22%	5%	12%
Dormitory furniture.....	26	40	21	5	8
Movie projectors.....	12	30	29	15	14
Laboratory:					
Equipment.....	1	24	24	17	34
Supplies.....	1	22	18	17	42
Athletic Goods:					
For intercollegiate use.....	1	19	17	15	48
For intramural use.....	1	25	15	15	44
Foods:					
Perishable.....	12	15	9	6	58
Processed.....	14	20	9	9	48

\*Those replying were asked to check the statement that best describes the practice for each item.

EDITOR'S NOTE: In summarizing the returns on this survey it was of interest to note that the titles of the officer performing the purchasing function vary considerably, particularly in smaller colleges.

#### Titles of Purchasing Officers in Colleges and Universities According to Enrollment\*

Title	Up to 500	500 to 1500	1500 to 5000	More than 5000	TOTAL
Business Manager.....	17	36	4	1	58
Purchasing Agent.....	....	7	7	10	24
Treasurer.....	9	6	1	....	16
President.....	7	3	....	....	10
Comptroller.....	1	1	1	3	6
Bursar.....	2	3	....	....	5
Dean.....	4	....	....	....	4
Assistant Treasurer.....	....	2	2	....	4
Auditor.....	1	....	1	....	2
Superintendent of Buildings and Grounds.....	1	1	....	....	2
Chief Clerk.....	1	....	....	....	1
Assistant Comptroller.....	....	1	....	....	1
Vice President.....	....	1	....	....	1
No answer.....	....	....	....	....	3

\*Question No. 3 of survey.

# SITTING PRETTY ON *Refinished Furniture*

**W. B. FORSTER**

Assistant Administrator  
City Hospital of Akron  
Akron, Ohio

NO MATTER HOW ATTRACTIVE WALLS and floors are, dormitories, nurses' residences and the wards of teaching hospitals or college infirmaries cannot look just right if the furniture needs refinishing or is refinished poorly.

The university or college has a little different problem than has the shop that refinishes household pieces. The same quality of beauty is desirable but dormitory, infirmary and hospital furniture receive much harder use. It follows, then, that a finish is necessary that will endure hard use for a long time. If this goal is attained, the expense of replacement of both wood and metal furniture as well as the expense of refinishing logically will be less.

## METAL FURNITURE

A common adage of painters is that you cannot put a smooth paint job on a rough surface. This is especially true with metal furniture. It is usually possible to see where chips and scratches were when a coat of paint

is put over the original paint job. Furthermore, a thin film of paint bonded to the metal seems to be tougher and to withstand more abuse than does the "paint-on-paint" type of work. It is thought advisable, therefore, to strip the pieces down to bare metal before they are repainted. This can be accomplished quickly by use of a stripping tank.

A good way to make such a tank is to construct it in three compartments with each compartment big enough to hold half of the biggest piece; thus, if the large piece is turned over it can be completely stripped. The first of these tanks should contain a caustic solution made by mixing 1 pound of alkali to 1 gallon of water. The second is for a clear water rinse. The third is for a rust inhibitor so that fine powder rust does not form during drying. This solution is made by mixing 21 ounces of a chromium powder to 100 gallons of water.

The rust inhibitor powder can be purchased from various alkali and

paint companies and costs only 35 or 40 cents a pound and can be used until it is dirty; so it is inexpensive. Both the alkali and the rust inhibitor work best at about 150° F. It is advisable, therefore, to have steam coils up the side of the first and third tanks to heat the solutions. Black iron is the best material for these tanks since it is the metal least affected by the alkali.

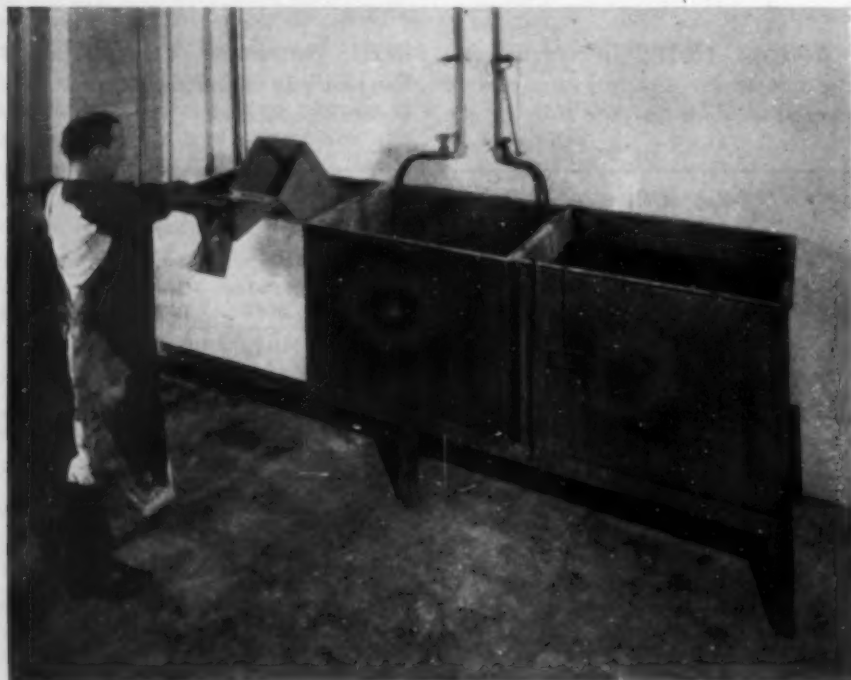
Any type of finish will look better after the piece to be refinished has been stripped in the foregoing manner. Brushed-on enamel is slow and, in order for it to flow so that brush marks do not show, has to be applied so thick that it has a tendency to chip and mar easily. Sprayed-on lacquer is quite acceptable and has the advantage of drying quickly. It is not as durable, however, as is synthetic enamel.

## SPRAY BOOTH

Some of the automobile companies seem to be abandoning the lacquer finishes for the synthetic enamels. These enamels do a good job for dormitory or hospital purposes. Their only disadvantage is that the drying time is longer but their durability and ease of handling more than offset this difficulty, especially if infra-red lamps are used to speed drying.

The spray booth is well worth the investment in any furniture work. It should contain a strong exhaust fan and baffle plates to ensure an even exhaust of air from the entire booth. Good lighting is necessary but all electrical fixtures in the room in which the booth is located must be explosion proof. The compressor should be located outside the room to avoid danger of explosion. In general, the construction plans for the spray booth should be checked with the local building inspector to see that they conform with the building code. Good prefabricated spray booths are on the market.

The type of spray gun selected is important. The so-called "bleeder"



Three compartment stripping tank for stripping down metal furniture.



type in which the air blows through the tip after the paint is shut off is not completely successful for this type of work. It has a tendency to collect a drop of paint at the tip which makes a mar on the surface being painted when the gun is turned on again. The type of gun that shuts off both air and paint seems to work better. This gun should be used at not less than 50 pounds' pressure to avoid an "orange peel" finish.

A revolving pedestal with a top large enough to hold the furniture being painted is helpful in that it allows the piece to be refinished on all sides without being touched.

#### EQUIPMENT FOR DRYING

Drying the synthetic enamel or, for that matter, any painted surface can be greatly speeded by the use of infra-red lamps of the regular commercial variety with the reflector built into the bulb. These lamps are relatively inexpensive to purchase and to operate. A bank of 10 bulbs on each side of the furniture will serve to dry a piece even as large as a tray truck. Infra-red drying produces a better finish than does regular drying at room temperature because the paint dries from the inside out, leaving a hard film clear through to the metal.

Infra-red drying equipment is easy to make. A simple upright with two cross arms serves to support the lights. Five sockets on each cross arm complete the equipment. Two of these units, one placed on either side of the painted object, will dry paint better in approximately two hours than room temperature would in forty-eight hours.

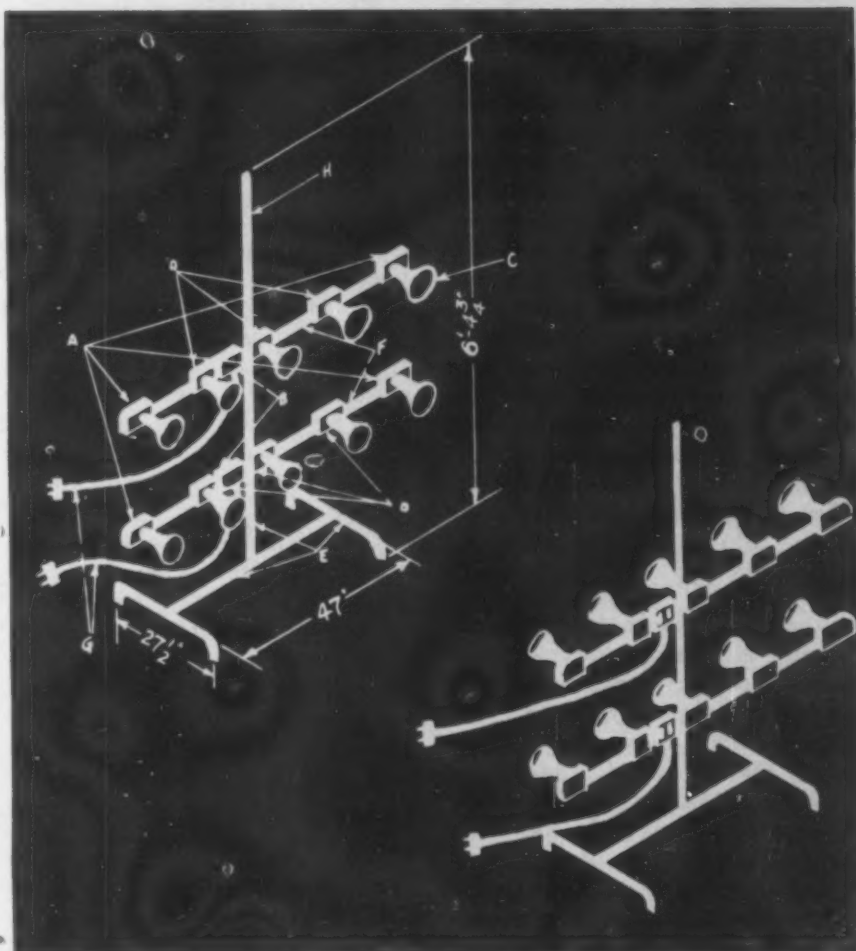
The drying equipment should be placed in a room separate from the paint shop because the resulting temperature rise would make it uncomfortable for personnel. It is necessary to experiment to determine the distance of the lamps from the furniture to avoid blistering.

The cost of operation of such equipment is relatively small. Assuming that twenty 250 watt lamps are used, their operation would cost only from  $7\frac{1}{2}$  to 15 cents (according to the electric rate) per operating hour. That, certainly, is inexpensive enough considering the results achieved.

The procedure in refinishing metal furniture with the equipment described would be started by stripping the old paint. If tubular pieces are being finished, it is sometimes wise to



Infra-red equipment is easy to make and permits synthetic finishes.



Specifications for infra-red drying unit. A, four type E condulets with porcelain lamp receptacles. B, two switches. C, 10 infra-red silver lined reflector lamps. D, six type C condulets with porcelain lamp receptacles. E,  $1\frac{1}{4}$  inch pipe. F, 1 inch standard pipe. G, two wire No. 12 rubber covered cords. H,  $\frac{3}{8}$  inch holes drilled through vertical support which makes lamp arms adjustable to various height holes drilled 6 inches apart. Horizontal supports can be adjusted to provide different lighting angles.



A spray booth is a good investment; it can be built or bought prefabricated.

put them under infra-red light for a few minutes before painting to avoid the possibility of any moisture inside the furniture running out and spoiling the quality of the paint job after it has been sprayed.

The metal should first be washed with thinner. The paint is applied in three coats: a primer and two coats of the enamel. The primer dries quickly; usually it is ready to be rubbed down with steel wool after twenty minutes under the lamps. The second coat is "fogged on" and let stand at room temperature for five minutes. The third coat is then applied while the "fogged" coat is still sticky.

#### WOOD FURNITURE

The refinishing of wood furniture presents the same problems as metal furniture presents in that an effective method of stripping has to be found, a good durable finish has to be selected and a successful method of applying it has to be determined. There, the similarity ends. The methods are quite different.

The stripping is slower and more tedious than with metal furniture. A standard varnish remover is applied and the paint is removed a little at a time with a broad knife and steel wool.

After the varnish has been removed and the piece is smoothed out with steel wool, there are always a few places from which remnants of paint

or varnish should be removed with sandpaper. It is also a good idea to wash the surface down with trisodium phosphate or some good commercial cleaner and to rinse.

A few years ago the style trend in wood furniture was toward painted or Chinese lacquer finishes. These finishes can be stripped in the way described but, after a piece is completely stripped and apparently ready for refinishing, another coat of varnish remover should be applied to open the grain for staining. This surface, too, should be washed with trisodium phosphate or a commercial cleaner and rinsed.

The selection of a finish for wood furniture is quite important. Test panels can be made and sprayed with the various varnishes in question. These panels should be dried by infra-red light and allowed to stand for a few weeks to assure that they have attained a condition similar to that which could be expected.

#### TESTS FOR FINISH

Then various solutions that might touch the furniture when it is in use in a room should be applied in stronger solution than normally would be expected so that results can be observed easily. In hospitals or infirmaries, perhaps the most important of these solutions are cresylic acid compound, ethyl alcohol and soap and water. Also, a test for scratching and marring is important. If the panel

is hammered and scraped with a key or coin the best finish can be easily selected. A finish that powders under the coin test is not suitable for dormitory or hospital use.

An excessively glossy surface does not look too well in a dormitory or a hospital room. On the other hand, the semi-gloss varnishes that have been tested have not compared favorably. Also, it may be observed that manufacturers of high quality furniture have not found a substitute for a hand rubbed finish.

These considerations would lead one to believe that finishes known variously as "bar top," "synthetic resin" or "cresylic resin" varnishes are best and that they can be improved by hand rubbing.

The entire operation of applying the finish to furniture can be accomplished most rapidly and satisfactorily in the spray booth. It is surprising how well stain can be applied to furniture with a spray gun.

The most successful finish seems to be attained by applying three light coats of the varnish with a spray gun. Each of these coats can be dried in about two hours by infra-red light. The first two coats can be rubbed down with fine steel wool and the third with pumice and oil. Care should be exercised not to rub near the edges as vigorously as in the center of the flat surface because of the danger of rubbing through the finish. Sometimes it is difficult to tell which steps have been completed. A cardboard tag marked "first coat" or "second coat" will be found helpful in determining the next step.

#### CONCLUSION

It might be well to point out, in conclusion, that many short cuts can be found to the procedures described but that quality work takes a certain amount of labor. The best quality of refinishing is none too good for the hard use that furniture receives in a dormitory or hospital. Any short cut that sacrifices quality should be avoided.

Some of the methods suggested here are fairly new but many men coming out of the army and the war plants are familiar with them. Furthermore, books in language easy to understand are available to aid the maintenance director in training personnel to do a type of furniture maintenance of which the superintendent of buildings and grounds may well be proud.

# TAKING PROPERTY BY CONDEMNATION



*If to acquire private property you have to exercise the right of eminent domain, prospects for success are bright in state and municipal colleges and universities. Also in defense against condemnation proceedings chances are good*

THE RIGHT TO TAKE PRIVATE REAL property when necessary for a public use, granting the private owner reasonable compensation as impartially determined, has often been invoked by colleges and universities. In the era of physical expansion now being ushered in, it may be important oftener than before.

A recent case involving Wayne University touches the subject somewhat obliquely. Being a public institution controlled by the board of education of Detroit, the university has the power of eminent domain and, being in dire need of additional dormitory facilities, it instituted condemnation proceedings to acquire the privately owned hotel known as Webster Hall, conveniently located and well suited to the purpose. During the pendency of the proceedings, however, the parties negotiated the transfer by amicable private purchase at an agreed price of \$1,200,000 and, accordingly, the condemnation suit was dropped.

Representatives of some 570 lodgers in the hotel then begged the court to restrain the completion of the transaction, contending that since a condemnation suit had been initiated, they were entitled to have the question of public necessity determined in court.

## RIGHT TO DISCONTINUE

Obviously, the lodgers, distressed at the prospect of having to find new living quarters for themselves in the early future, were grasping at a straw. Condemnation proceedings may be discontinued at any stage before the court has confirmed the verdict of the jury. Affirming the judgment of the trial court which had dismissed the complaint of the lodgers, the Michigan supreme court went so far as to declare that the public necessity of the university's acquisition of the hotel was clear and, while sympathizing with

## M. M. CHAMBERS

American Council on Education

the plight of the lodgers, pointed out that they had no recourse by which to prevent the transfer by private purchase. Necessarily, the terms of the purchase had to be subject to whatever rights the lodgers had acquired by contract with their erstwhile landlord and beyond that they had no ground on which to base a complaint.<sup>1</sup>

## DORMITORIES ARE "PUBLIC USE"

If precedent is needed for the holding that the acquisition of land or buildings for dormitory purposes by a state or municipal college or university is an acquisition for public use, it may readily be found in Indiana where the supreme court sustained the taking of a dormitory site by Purdue University.<sup>2</sup> Likewise in Michigan where the supreme court upheld the taking by the regents of the University of Michigan of a site for the Lawyers' Club building which provides sleeping, study and dining accommodations for law students.<sup>3</sup>

In the case of Purdue, there was statutory authorization of the exercise of eminent domain by the university; in the case of Michigan, the state constitution itself confers that power on the regents of the university. Sustaining of the power when not backed by constitutional or statutory authorization is not unknown. Thus the Alabama Polytechnic Institute has been held to be so much a part of the sovereign state as to partake automatically of the power of eminent domain

which is inherent in the state and exists without any constitutional or statutory provision for it.<sup>4</sup>

Both the University of Texas and the University of Nebraska have used statutory condemnation proceedings to acquire extensions of their respective campuses and in each instance the state courts of appeal sustained the taking. In Texas the taking of somewhat more land than would be absolutely necessary to satisfy the university's immediate needs was upheld.<sup>5</sup> In Nebraska it was made clear that when a private residence was taken by condemnation, its private owner was not entitled to recover indemnity for the loss of time from his regular employment occasioned by the necessity of procuring another house and moving his household goods or for the expense and inconvenience of moving.<sup>6</sup>

When the University of Minnesota was empowered to construct and operate an electric railway to connect its detached farm campus with the street car system of Minneapolis, it became necessary to take a part of the necessary right of way by condemnation; and the state supreme court found the action fully authorized.<sup>7</sup> More recently, a 10 acre tract was seized by the regents of the University of Michigan for use as a golf course. The courts approved its necessity as a physical education facility for the university and brushed aside the argument that the land would be used and controlled by the private nonprofit corporation known as the board of control of athletics of the University of Michigan

<sup>1</sup>Denson v. Alabama Polytechnic Institute, 220 Ala. 433, 126 So. 133 (1930).

<sup>2</sup>Cochran et al. v. Cavanaugh et ux., (Tex. Civ. App.), 252 S. W. 284 (1923).

<sup>3</sup>Mohler v. Board of Regents of University of Nebraska, 102 Nebr. 12, 165 N. W. 954 (1917).

<sup>4</sup>State ex rel. Smith v. Van Reed: State v. Knapp, 125 Minn. 194, 145 N. W. 967 (1914).

<sup>5</sup>Hooper v. Board of Education of City of Detroit, (Mich.), 23 N. W. 2d 692 (1946).

<sup>6</sup>Russell v. Trustees of Purdue University, 201 Ind. 367, 168 N. E. 529, 65 A. L. R. 1384 (1929).

<sup>7</sup>People v. Brooks, 224 Mich. 45, 145 N. W. 967 (1923).



and purchased with its funds. The board of control is merely an operating agency of the university corporation under full control of the regents.<sup>8</sup>

#### BY PRIVATE COLLEGES

Exercise of eminent domain by privately controlled colleges and universities is on not quite so firm and undisputed a basis. The legislature of Connecticut conferred the power on the Connecticut College for Women in 1911 but when that institution sought to condemn a tract of land deemed necessary for its site, the highest court of the state declared the act unconstitutional on the ground that the college was not under legal obligation to admit all qualified students to the extent of its capacity, without religious, racial or social distinction. Without such an obligation, thought the majority of the court, the taking of private property could not be said to be for a public use.

One of the justices, however, entered a strong dissent, pointing out that the right of condemnation is commonly granted to privately owned and proprietary enterprises engaged in mining, transportation, drainage and other "public utilities" and that in Connecticut it had been granted to a proprietary mill for the manufacture of axles and tinware. In contrast, the college, said he, was "a charity maintained at private cost and without profit, serving a great public need and relieving the state from a duty which it might well assume" and the court should not overturn the legislature's declared intent to give it the power of eminent domain.<sup>9</sup>

From the other side of the continent came a favorable decision a dozen years later in a case brought by the University of Southern California to condemn certain property for use as a portion of the grounds surrounding its newly constructed university library building. The private property in question included the land and a drugstore, a residence, two cottages and two garages. The university's purpose was to remove the buildings, landscape the ground, beautify it with lawns and shrubs and construct intersecting paths to make entrance to the library more readily accessible.

The California court of appeal looked at a state statute which conferred the power of eminent domain on "any institution within the state which is exempt from taxation under Article 13, Section 1a of the Constitution" which exempts "any educational institution of collegiate grade . . . not conducted for profit."

Taking advantage of the opportunity to distinguish this case from the Connecticut case, the court also noticed that the charter of the university, as amended in 1928, stipulated that: "This university shall be open and equal privileges accorded alike to each and every resident of this state, whether male or female, and regardless of nationality, race or religious belief, who possesses the required qualifications for entrance, and no person shall be denied admission to this university who possesses such qualifications. Such qualifications shall be of the same general character as those required by state colleges and universities in this state."

The court then went on to say: "The higher education of youth in its largest implications is recognized as a most important public use, vitally essential to our governmental health and purposes. . . . The land here considered . . . will be devoted . . . to a high public use." A petition for a writ of *certiorari* was taken to the Supreme Court of the United States but that tribunal declined to review the case or disturb the decision.<sup>10</sup>

#### WHEN SITUATION IS REVERSED

It is interesting to note the possibility that an institution of higher education may on occasion find itself compelled to defend against a condemnation suit brought by some other agency seeking to acquire a part of the institutional property for an allegedly public purpose. At least two cases of this kind, neither of them very recent, have reached the state supreme courts and with diverse results. Sixty years ago a railroad company successfully condemned a right of way across land of the University of Minnesota, at one point within about 600 feet from the nearest university building. The university urgently contended that the noise and jar of trains would disturb its educational work but the supreme court refused to credit that contention

seriously, in view of the fact that the railroad track was to be laid in a cut 30 feet deep.<sup>11</sup>

More recently by four decades, a commercial power company failed in its attempt to take by condemnation a portion of park lands held in trust by Middlebury College adjacent to its campus. The tract was of virgin forest traversed by the Middlebury River and had been devised to the college in trust to be maintained forever in its virgin state as a park for the benefit of the students and to be accessible to the public under reasonable rules made by the college trustees. Under these conditions, the Vermont supreme court readily decided that the land was already dedicated to a public use, such that no part of it could be taken by condemnation for the development of a proprietary electric power project.<sup>12</sup>

#### PROSPECTS ARE BRIGHT

It is unlikely that cases in which a college or university has to defend its property against condemnation proceedings will arise very frequently and there is probably better than an even chance that in any such case the defense will be successful. When the institution finds it necessary to exercise the power of eminent domain to acquire private property for its public uses, the prospects of success are also bright.

No case in a court of last resort has been found in which the result was otherwise when the condemnor was a state or municipal institution of higher education; and it has become clear that the courts recognize the state function of education as being broad enough to include the housing and feeding of students and the provision of suitable facilities for physical education and recreation.

Privately controlled institutions of higher education vary so widely as to their charter powers and as to their right to discriminate in the admission of students that a sweeping general statement would be unwise. The weight of the likelihood, however, is that the function of higher education will be increasingly recognized as a high public function as it was in the California case and by the dissenting justice in the earlier Connecticut case.

<sup>8</sup>People ex rel. Regents of the University of Michigan v. Pommerening, 250 Mich. 291, 230 N. W. 194 (1930).

<sup>9</sup>Connecticut College for Women v. Calvert, 87 Conn. 421, 88 A. 633, 48 L. R. A. N. S. 485 (1913).

<sup>10</sup>University of Southern California v. Robbins, 1 Cal. App. 2d 523, 37 P. 2d 163 (1934). Certiorari denied, 295 U. S. 738, 55 S. Ct. 650, 79 L. Ed. 1685 (1935).

<sup>11</sup>University of Minnesota v. St. Paul and N. P. Railroad Company, 36 Minn. 447, 31 N. W. 936 (1887).

<sup>12</sup>President and Fellows of Middlebury College et al. v. Central Power Corporation of Vermont, 101 Vt. 325, 143 A. 384 (1928).

# QUESTIONS AND ANSWERS

## How to Solicit Funds

Question: Would you recommend solicitation of endowment support from comparatively few wealthy donors or a general appeal to all friends and alumni of our college?—S.R.B., Fla.

ANSWER: A general appeal to all friends and alumni is to be recommended rather than a solicitation of endowment support from comparatively few wealthy donors, it would seem. The reasons might be as follows:

1. The fast disappearing of large estates from which our capital gifts would come.
2. High resistance of wealthy potential donors against approaches for capital gifts.
3. Even if capital gifts are received, the problem of earning an adequate income from them.
4. A general appeal broadens the base of donors.
5. This large list offers promotional channels of many varieties: general publicity, particular development of interest on the part of preparatory and high school pupils in that given college, promotion on the part of alumni who give and who are therefore intelligent about the aims of the institution.
6. The alumni fund, since it is an annual fund, may be interpreted as income from endowment and actually is more wholesome than if that income came from securities purchased from one large endowment fund gift.—GERTRUDE V. BRUYN.

## Collection of Fees

Question: Is there a trend toward a flat fee to students to cover costs of tuition, board, room and laboratory expenses, or a separate charge for each item?—P.L.R., Tenn.

ANSWER: The idea of combining many fees into one fee is not new. It has been tried with varying success for many years. Rollins College combined all fees into one about twelve years ago. This was done on the theory that a student should pay the full cost of education. Some colleges claim that a single fee in place of many

miscellaneous fees is easier to collect while others state that it increases administrative costs and demands for scholarships and loans.

A successful method for avoiding collection losses is to stagger due dates of payment uniformly over the school year; for example, to collect tuition in four parts, September, November, January, March; room and board, October, December, February, April; fees at the beginning of each semester. This makes it easier for parents to budget their payments on a regular monthly basis.

Some of the Negro colleges that receive payments as often as once a week have the lowest collection loss record. Another method is to sell tickets for fees on the order of the motion picture plan on the same theory that the Chinese laundry adopts, "No tickee, no shirtee."—J. HARVEY CAIN.

## Procuring Product Tests

Question: Where can the small college get reliable testing results on products?—H.L.H., Neb.

- ANSWER: 1. Electrical Testing Laboratories, East End Avenue at Seventy-Ninth Street, New York, N. Y.
2. U. S. Bureau of Standards—under certain conditions.
  3. U. S. Bureau of Mines—for coal analyses.
  4. Universities and state colleges of engineering and agriculture—by negotiation.
  5. State agencies—state chemist, state food and drug department, public health department, state highway department.
  6. Private testing firms. Look under "Testing Laboratory" in classified section of telephone directories—usually chemists, coal analysis technicians and construction materials testers.
  7. Devise and conduct your own tests. Where standard tests and standard precision equipment are not available, conduct *comparative* tests, subjecting all samples to exactly the same set of tests to see how they compare with each other.—LESLIE F. ROBBINS.

## Inventory Control on Repairs

Question: How can I set up a simple inventory control system to take care of materials used on small repair jobs by our maintenance department? Should I have a flat charge for jobs requiring use of only a few nails, bolts, screws and scrap lumber?—H.W.P., N. Y.

ANSWER: It is not possible to set up an airtight inventory control system for small jobs without such control costs being altogether out of proportion to their value. In order that a measure of inventory control be applied to small jobs, we have found it expedient to adopt the following general policy at Oberlin College:

- (1) Salvage material is held in stock without being carried in the active inventory;
- (2) this material is to be used before any material is taken out of stock;
- (3) a flat charge is made for small jobs covering nails, bolts, screws and similar items, such as ½ pound of nails, 12 screws, six bolts.

In the course of a year these flat charges just about take care of the materials used for the various jobs on our campus.

It would appear from the foregoing discussion that irregularities might result from this practice. The total volume of work represented, however, is not large in the aggregate and all of the withdrawals are under the supervision of the stockkeeper.—LESTER S. RIES.

## Profitable Freeze

Question: Do you find the use of quick freeze facilities profitable in the food service program of a small college?—H.L.T., Idaho.

ANSWER: Yes, I am sure a quick freeze method is profitable in the operation of a food service program for small colleges as well as for large colleges.

During the recent war years our quick freeze system at Bennington College made it possible for us to live within our budget while giving us ample food which we purchased when prices were at the lowest, thereby controlling food cost.—JUDITH AMES COOKE.



# THE ROVING REPORTER

## Paging Mr. Barnum

Current talk about the unfitness of Old Main, ancient University of North Dakota building, to house the school's administrative offices recalls a 22 year old story to the mind of Dean W. G. Bek, faculty veteran.

When the upper stories of the now 63 year old building had to be removed in 1924, the *Dakota Student*, campus newspaper, carried the following item:

"Old Main has been condemned by architects and builders. A temporary building will be erected for classroom purposes. The old structure, built in 1883, has been declared unsafe for *students* but the *faculty* will be kept there."

## Scooters for Commuters

At Boston University, a school of theology, a student received a lot of laughs and good natured ribbing when he began to arrive regularly for classes in his bright red, 35-mile-an-hour motor scooter. But Wilson J. Lyon just laughed right back. It takes him only 15 minutes to commute from his Jamaica Plain home at an average of 100 miles per 30 cent tankful of gas.

## Bus Goes to College and Other Points, Too

Sharing the spotlight with a group of attractive students in this campus picture from Cotter Junior College for Women, Nevada, Mo., is this veteran bus. The coach, after six years of service, is described by a college official as "definitely a piece of academic equipment for our program." It is in constant use for excursion and educational trips.



## Taxation or Donation?

A successful device for encouraging gifts is a recent folder "How Federal Income Tax Laws Encourage Giving" being sent to friends of the University of Chicago.

It tells the four ways that Congress, through tax reductions, encourages giving: (1) deductions from individual income tax up to 15 per cent of the adjusted gross income; (2) deductions by business corporations up to 5 per cent of their net taxable income; (3) gifts by individuals of securities that have risen in market value, the amount of each gift being figured at current market value rather than at cost; (4) gifts of cash and securities in trust, an individual reserving the right to receive the income during his life (or that of his spouse) and deducting from his taxable income a large part of the gift.

The accompanying table from the booklet is available from many other sources as well. Colleges not already making use of the table may wish to do so.

The table illustrates the "reduced cost of giving." For simplicity, the figures relate to the first \$100 of a

gift; approximately the same savings apply to gifts of larger amounts. The figures are examples for a married

Adjusted Gross Income	Federal Tax Saving	Net Cost of a \$100 Gift
\$ 5,000	\$20.90	\$79.10
10,000	28.50	71.50
15,000	40.85	59.15
17,500	44.65	55.35
20,000	47.50	52.50
30,000	58.90	41.10
40,000	61.75	38.25
50,000	68.40	31.60
60,000	71.25	28.75
75,000	76.95	23.05
100,000	82.65	17.35
200,000	85.50	14.50

man, with two children, who has deductions (interest, taxes, medical expenses and similar exemptions) of \$500. The exact saving will vary with the circumstances of the individual.

## Collegiate Nursery

It has been traditional in colleges and universities that when a certain number of persons move into a campus living unit in the fall, no more than that number will vacate at the end of the term. Like many an other tradition in postwar college life, this one, too, will go by the boards in such college communities as Hillside, the Rutgers University trailer community for its married veteran students. With 27 children already playing gaily about Hillside's grounds, Sir Stork is hovering patiently by for the 14 other calls he expects to make in the near future.

Hillside's youngsters range in age from one week to four years, and their mammas have ambitious plans for making playground and nursery facilities available. These plans include furnishing a special four room unit, now unused, as a day nursery.

When the nursery is first opened, the Hillside mothers will take turns supervising the nursery and adjoining playground but it is hoped that eventually a registered nurse or trained nursery attendant will be on the job. Dr. Russell Greenwood, university physician, is on emergency call.



# NEWS

*New Regulations for Veterans' Dwellings . . . N.E.A. Salary Plan Competition to Higher Education? . . . 20 Colleges in Intergroup Relations Project . . . Reader Service, More Training for Disabled Vets . . . Insurance Plan for Academic, Nonacademic Employees*

## **New Regulations on Permits for Veterans' Homes and Dormitories**

A regulation governing the issuance of permits for the building of dormitories, homes or apartments under the Veterans Emergency Housing Program for 1947 was announced late in December by Housing Expediter Frank R. Creedon.

No new HH priorities will be issued. Those previously issued will remain valid for construction currently under way and must be honored by dealers and others even though applied to purchase orders placed after December 24.

A construction permit may be obtained by educational institutions or public organizations wishing to provide housing for student veterans. The application will not be approved if the maximum rent proposed is more than the amount charged for comparable accommodations in the area.

If the application is made by a person under the sponsorship of an educational institution, the application must be accompanied by a letter from the institution which requests that the application be approved, which states that there is not a sufficient number of rooms in the community for student veterans and which represents that the institution will refer student veterans to the proposed accommodation as long as this section is in effect.

Four conditions are attached to the granting of a permit for the construction of new dwellings: The dwelling shall be suitable and intended for year round occupancy; the total area of the dwelling, measured to the outside of exterior walls but not including basements and unfinished attics, open porches, terraces and garages, may not

## **Resume Speed**

Negotiations between publication printers and the typographical union in Chicago have been satisfactorily concluded. This will enable College and University Business during 1947 gradually to resume its regular publication schedule.

exceed 1500 square feet; only the number of fixtures normally used in equipping one bathroom may be used, and dwellings that are for sale to veterans are required to be held for veterans for sixty days after completion, rental property thirty days.

## **91,000 Temporary Housing Units Completed**

More than 91,000 temporary dormitory and family accommodations for veterans had been completed by the end of the year, according to an announcement of the Federal Public Housing Authority January 7. It is estimated that present funds should provide for the completion of 178,000 dormitory and family dwelling units.

Accommodations that cannot be completed at federal expense may be completed by arrangements under which the local public body or educational institution itself makes a capital contribution supplementing the available federal funds.

## **Top Priority Extended**

Colleges will continue to get top priority and a 95 per cent discount up to March 31 on government owned surplus machine tools, classroom and laboratory equipment, and cafeteria, kitchen and dining room equipment. This priority would have expired December 31 had not Directive 23 of PR 13 been extended.

## **Rules on Extra Tuition for Disabled Veterans**

Regulations providing for adjustments in tuition payments for disabled veterans enrolled under the Vocational Rehabilitation Act apply only to non-profit, tax supported institutions, a spokesman for the Veterans Administration declares.

Such schools and colleges providing additional facilities to train disabled veterans may ask V.A. to pay more than the usual tuition charge. The adjusted rate must not total more than the school's teaching and supply cost.

A school that finds it needs more than the usual tuition for disabled veteran students must submit the following information to the V.A. regional office.

1. Total enrollment of resident students for the school year 1939-40 compared with the estimated enrollment for 1946-47, or for whatever year the adjustment is asked.

2. Lump sum total instructional expenditure for the school year 1939-40 compared with the same budget for the school year for which the adjustment is asked.

3. A statement that payments over and above the customary charges are required to enable the institution to furnish the additional facilities necessary to accommodate veterans under the Vocational Rehabilitation Act.

Each V.A. regional office manager may pay the adjusted rate of tuition agreed upon as long as it does not exceed the cost of teaching personnel and instructional supplies. If the institution indicates it needs a still higher rate, V.A.'s central office in Washington must decide the case. Application for adjustment in the rate must be received prior to the semester for which the adjustment is asked.



Acme

**SITE** for underground Utopia college proposed by Roger Babson is viewed by two high school pupils and A. A. Nixon, former owner of the land which is near Eureka, Kan. Economist Babson believes such a structure would be safe during the atomic war he thinks will come.

### Reader Service for Blind Veterans Is Available

Veterans Administration is providing reader service for blind veterans who must have their study material read to them in order to go to school under the Vocational Rehabilitation Act.

Readers are picked not only for their ability to read intelligently but for their understanding of the problems of newly blinded persons and their ability to test the veterans' understanding of what he is hearing.

Every trainee in school under Public Law 16 whose vision is so impaired that it is impossible or inadvisable for him to use his eyes for reading is eligible for reader service. This includes those whose best corrected vision is 20/200 or less in both eyes, those whose central vision is more than 20/200 but whose field of vision is limited and those with visual impairments that may be made worse by reading.

Hiring of readers is done by V.A. regional managers, either through arrangements with the school or by contract with outside individuals or agencies.

### America's First Planned Campus Remodeled

Completion of mental testing laboratories in North Colonnade at Union College will complete a three decade project costing more than \$400,000 and intended to modernize the interiors of buildings designed in 1813 by Joseph Jacques Ramee as part of America's first planned campus.

The Union campus antedates Thomas Jefferson's University of Virginia by six years.

Remodeling of the buildings designed by the itinerant French architect began under President Charles Alexander Richmond in the 1920's and was continued during the administrations of Frank Parker Day and Dixon Ryan Fox. The North and South College units, which comprise the original Ramee buildings, include dormitories, faculty houses, commons, student and faculty lounges, the old chapel, library storage vaults and geology, psychology and physics classrooms and laboratories.

### University of Washington Expansion Approval

The University of Washington has had a \$9,207,000 expansion program approved by C.P.A.'s facilities review committee, according to an announcement January 3. Ten structures, including a \$3,000,000 health and science building, a fisheries' school, six other classroom buildings, a student union building and a new administration building, are slated for construction. Construction will begin almost immediately.

The expansion program has been planned for a number of years and is urgent now because of the influx of veterans. The present enrollment of more than 15,500—60 per cent veteran—represents an increase of 50 per cent over the prewar peak and of 250 per cent over the wartime enrollment level. A student body of 20,000 is expected by next fall.

### Public School Teachers Plan Group Action on Pay

Colleges may soon be competing with elementary and high school pay scales of \$2400 to \$6000 for faculty members.

The National Education Association on January 1 called upon teachers to take "group action" in seeking a minimum annual salary of \$2400 for qualified beginning teachers who are college graduates. Increments beginning with the second year would lead to a professional salary level for experienced teachers ranging from \$4000 to \$6000 a year.

According to the officially announced plan, a local teacher group would appoint a "salary committee" to present its demands for higher pay and improved working conditions to the local board of education. This would not be called "collective bargaining" but "democratic action."

The public school teachers would not break contracts or strike but once they had fulfilled their agreements would insist upon new contracts providing the salaries and working conditions locally agreed upon.

Along with this demand for local relief, the state and local educational associations would undertake "aggressive action" for adequate state minimum salary standards and for the development of state finance programs needed to support education. Additional federal aid for public education will also be sought from the 80th Congress.

### Intergroup Relations Study Now in 20 Colleges

Twenty teachers' colleges and universities in the United States are now participating in the four year College Study in Intergroup Relations Project, Dr. Lloyd Allen Cook, national director of the study, announces.

Purpose of the project is to train teachers to handle racial and religious problems and education in public school classrooms and in the community. It is co-sponsored by the American Council on Education and the Council on Cooperation in Teacher Education and is financed by the National Conference of Christians and Jews. Roosevelt College in Chicago recently entered the program; it already had a program of its own.



## Some Disabled Veterans to Get Extra Training

Additional training under Public Law 16 will be provided disabled veterans who need more than the usual four years of training, the Veterans Administration announced recently. Veterans so severely disabled that no course of training will restore them to employability in four years and those who lose time in their courses because of their health or other personal circumstances beyond their control will benefit by this ruling.

Provision also has been made for disabled veterans who started pre-professional courses before the war and have since proved their suitability for their chosen profession but who still must have more than four years to prepare for it.

The new program applies only to those in school training, not to those in on-the-job training except in certain cases. Final decision for courses of more than four years rests with each V.A. regional manager, acting on the written recommendation of a committee of his vocational rehabilitation, education and guidance specialists.

## Collective Level Insurance Announced by Carnegie Group

A new type of life insurance, known as collective level insurance, for both academic and nonacademic staff members of institutions of higher learning was announced recently by R. McAllister Lloyd, president of Teachers Insurance and Annuity Association of America.

Collective level insurance is an addition to T.I.A.A.'s special annuity and insurance plans and is designed "to assist colleges in meeting the increasing competition of industry by providing greater economic security for personnel." The new type of insurance has been especially created for colleges without funded retirement plans in order to protect both the colleges and the staff members' families against the financial emergencies arising on the death of a staff member. The plan also helps colleges to give some economic security to the large groups of nonacademic employees frequently not covered by regular retirement programs.

Collective level insurance supplies fixed amounts of life insurance protec-

tion up to age 70 for all participating staff members regardless of their insurability. It is available at the low group rate to colleges establishing groups of 25 or more persons.

## Byrd Seeks End to Political Controls

President H. C. Byrd of the University of Maryland asked the legislative council recently to investigate the political controls which, he asserts, hamper the efficient and economic operation of the university. President Byrd contends that under existing controls it is almost impossible for the university to get the additional competent teachers needed.

Salary standards are set up by the standard salary board and administered by the employment commissioner. The latter also controls the hiring and firing of all nonteacher personnel of the university. Decisions involving the spending of university appropriations are in the hands of the board of public works.

Walter D. Owens, state employment commissioner, declared that if employment controls were removed from the university it would cause a breakdown of the entire state employment system. He added that there was no more reason for the university to be excluded from the provisions of the merit system than there is for any other state department.

## Foreign Students at Columbia Exceed 1000; More Expected

More than ever before Columbia University is this year fulfilling the functions of a "world university."

According to the results of a survey announced recently by N. Deming Hoyt, adviser to foreign students at Columbia, 1004 students from seventy-seven countries and colonies are enrolled.

Almost 100 are veterans of 15 allied armies, many of them from British dominions, who are studying under veterans' benefits.

The presence of the U.N. in the greater metropolitan area has already made itself felt. Thirteen members of foreign secretariats have registered, chiefly in the graduate faculties and in all cases on limited programs. Their number is expected to increase.

## K.S.C. Seeks \$2,000,000 for Residence Halls

A million dollars will be requested from the legislature by Kansas State College for two residence halls, according to President Milton S. Eisenhower in his biennial budget. The college also is asking the legislature to amend the law so that the school can borrow funds to build another two residence halls on a self-liquidating basis.

Of the request appropriation, \$580,000 would be used to construct a stone residence hall for 210 women and the remaining \$420,000 to build a hall for 250 men on a tract recently donated to the state by the Kansas State College Endowment Association. Funds for the purchase of the land were contributed by business and professional people of Manhattan.

If the legislature amends the law as requested, the college can borrow an additional million for two more dormitories. Net revenue from all college-operated permanent housing would be sufficient to pay off the million dollar debt in twenty years, it is declared.

## Ending of Federal Contracts Cuts Chicago Income

Income of the University of Chicago for the fiscal year 1945-46, ending last June 30, was approximately \$20,594,000, or about double the pre-war normal, the annual report of Harvey C. Daines, comptroller, discloses.

Completion and termination of wartime nonprofit contracts for the government, for such projects as the development of the atomic bomb, proceeded rapidly during the year, these operations dropping from \$21,000,000 to \$7,000,000. In the previous fiscal year the government contracts were largely responsible for a record gross income of \$32,600,000.

The government contracts did not provide for profits but did result in financial benefit in the transfer of salaries of staff members, plant expense and some overhead cost to war projects during a period when student enrollment was far below normal.

The university's regular budget, comprising normal educational and research activities, was \$10,811,000, an increase of \$1,809,000. To balance this budget, \$333,000 was required from reserves.



## Branch College at Vanport Housing Project

Additional college facilities in Oregon are provided at Vanport City, the nation's largest federal housing project during the war. Called the Vanport Extension Center, this college is serving about 1500 students.

One third of the student enrollment lives in Vanport City, to which only veterans are admitted, and the remainder commutes from Portland, 7 miles away, and from other suburbs.

Two former nursery schools and a recreation building have been converted into classrooms. Laboratory work must be taken in Portland using the university dental school and high school facilities.

Stephen E. Epler is director of the center and Phil H. Putnam, assistant director. Higher education off of established campuses in Oregon is under the general extension division, headed by J. F. Cramer.

## Illinois to Construct Special Research Unit

The University of Illinois will soon construct a special research unit to study subjects under controlled pressure and temperature conditions as part of its research in aviation medicine and atmospheric problems, according to Dr. Andrew C. Ivy of the university staff.

This new unit will be built as an addition to the research and educational hospitals on the Chicago campus of the university at a cost of \$500,000, including equipment.

## Half Million Pledged to Brandeis

Gifts and pledges of \$508,000 to Brandeis University, America's first secular educational institution under Jewish auspices, were reported recently by Julius Silver, treasurer of The Albert Einstein Foundation, Inc., sponsoring body of the university.

## Alfred Gets Five Buildings

Alfred University will have five new buildings costing \$2,236,662. Their construction has been approved by the New York State postwar public works planning commission. The State Agricultural and Technical Institute and the State College of Ceramics at Alfred get the buildings.

## Gets Largest Single Gift

Probably the largest single gift that has ever been given to West Virginia Wesleyan College by a single individual is \$250,000 recently bequeathed from the estate of Mrs. Lawson L. Loar. Of this amount, \$100,000 is to be used for a Loar Memorial Hall of Music and Fine Arts, and the remainder will be an endowment for maintenance and support of the building. The building will be in honor of Mr. and Mrs. Loar and their daughter.

## City College Students Study Racial Tensions

A series of studies on racial tensions will be made by students of City College of New York, according to a recent announcement by Dr. Samuel Joseph, the college's Social Research Laboratory head. Students will study Negro-Jewish relationships in Harlem, gauge the effectiveness of the New York State anti-discrimination law and investigate student attitudes on establishment of a state university.

The projects will be conducted with the cooperation of groups including the Mayor's Committee on Unity, the American Jewish Congress and the Citizens Housing Committee.

In connection with the poll on the state university, the entire senior class of the college will be asked: "Have you changed your vocational objectives since entering college because you feel that racial or religious discrimination will prevent you from entering your chosen profession?" The students will be questioned also on alleged discrimination at graduate schools and will be asked if they would continue their education at a free state university should one be established.

## Colleges Buy "Brains" for Study and Experiment

More than 150 colleges and universities, representing a cross section of the nation's leading scientific institutions, have bought B-29 servomechanisms for use in electronic research and experimental work, according to recent word from the War Assets Corporation. The mechanism is part of the superfortress firing control system. The cost to qualifying institutions is \$202.50 plus freight charges from Omaha.

## \$500,000 Gift to Pennsylvania College

An anonymous gift of \$500,000 to Pennsylvania College for Women was announced recently by President Paul R. Anderson. This is the largest single gift in the history of the college.

Gifts and pledges to the college in the past few months total nearly a million dollars. Two anonymous gifts of \$200,000 and \$50,000 for a new chapel were announced in June. At the same time the alumnae of the college pledged \$200,000 for a new alumnae building which will serve the dual function of a dining hall and an alumnae center.

## Cincinnati Tops All Previous Enrollments

The University of Cincinnati, with 16,042 students, has its largest enrollment in history and also its most diversified and cosmopolitan in geographical representation. Helen Burgoyne, registrar, reports students enrolled from each of the 48 states, District of Columbia, Hawaii, Puerto Rico and 16 foreign countries representing each of the five continents.

Approximately 7500 returned veterans are studying under provisions of the G.I. Bill of Rights. This number is just 1000 less than the local university's total enrollment at the same time last year.

## Trustee Gifts Substantial

In a study made of gifts by trustees to 62 Methodist-related institutions, Dr. John O. Gross, secretary of the department of educational institutions, reported that during the five year period ending in 1945, 44 per cent of the trustees had made gifts that fell in the following classifications: 6 trustees gave \$1,000,000 or more; 80 trustees gave \$10,000 to \$99,999; 10 trustees gave \$100,000 to \$999,999; 263 trustees gave \$1000 to \$9999; 481 trustees gave \$100 to \$999.

## Rollins Receives \$500,000

Announcement of a \$500,000 grant for a library was made recently by President Hamilton Holt of Rollins College. The gift was presented by the Davella Mills Foundation of Upper Montclair, N. J., on the condition that the college's expansion program be completed before commencement day, June 1947.

# New Jersey College Gets Financial Aid

During the 1945-46 academic year at New Jersey College for Women, 574 students, or 52 per cent of the undergraduates, received some kind of financial aid from the college or through state scholarships, self help, loans or a combination of all. This was 8 per cent less than in the previous year.

A gain of \$5520 in scholarships from sources outside the college and other aid from outside sources brought the total of student aid to \$406,098, only \$51 less than the total for the year 1944-45.

Scholarships and grants-in-aid went to 212 students during the last year. For the 1946-47 academic year, 274 applications for college scholarships were received, representing an increase of almost 22 per cent over last year.

# Illinois Gets Hospital for Vocational Training

War Assets Administration has approved leasing of Mayo General Hospital, Galesburg, Ill., to the University of Illinois for use as a veterans' vocational training school. The lease is for three years, with an option for two additional years, at a nominal annual rental.

The leased property includes 155 acres of land and 128 buildings having a total reported cost to the government of \$4,546,650.

In applying for the hospital, university officials stated that enrollment at the Urbana campus, normally 14,000, is currently 18,362. An additional enrollment of 5000, mostly veterans, is anticipated and additional facilities are urgently needed.

Of the hospital's 128 buildings, 118 are eminently suited for conversion to classroom use. The site also provides adequate housing for both staff and students, an infirmary, laundry, mess halls and recreational buildings.

Under terms of the lease, the claimant must pay all administrative closing costs, pay all insurance and maintenance costs or dollar equivalent, continue to use the property in accordance with the application, file semi-annual reports on use of the property and return the property in the same condition in which it was received, normal wear and tear excepted.

# Five Colleges Send Students for Washington Semester

An unusual educational experiment begins in Washington February 7 when 23 students from five colleges in Ohio, Pennsylvania and Missouri will come to American University in an independent study and field experience program.

The "Washington semester" is being conducted by the school of social sciences and public affairs of American University and is intended to give students firsthand knowledge of government processes.

American University officials declare that the program establishes a new pattern of cooperation among colleges and a new method of utilizing the resources of the national capital. The basic seminar is entitled "Government Process." Participating institutions appoint a visiting semester professor to the faculty of American University.

# "ORDWES" Means Ordnance Research at Wesleyan

Creation of a military research organization at Wesleyan University to continue the ordnance research program conducted there during the war has been announced.

The new organization is being started under a contract between the university and the U.S. Army Ordnance, with the project being known as ORDWES. ORDWES will be operated by a full time staff of scientists under the directorship of Richard C. Clarke, formerly assistant professor of chemistry at Wesleyan.

# Names in the News

Dr. S. A. Watson recently resigned as president of Wilmington College, T. S. Townsley, chairman of the board of trustees announced. The resignation will be effective at the end of the present school year. Dr. Watson is now completing his seventh year at the college before which he was dean of Whittier College in California.



Robert G. Emerson, a vice president of the First National Bank of Boston, has been named treasurer of Northeastern University and six other prominent men, including four Boston bankers and trustees, were elected members of the Northeastern Corporation, President Carl S. Ell announced recently.



Dr. Walter A. Groves is the new president of Centre College at Danville, Ky. He succeeds Dr. Robert J. McMullen who retired last September. Dr. Groves was dean of the American College in Teheran from 1925 to 1940. From 1940 to 1942 he was a member of the faculty of Centre College; following this he was professor of doctrinal theology at the Presbyterian Theological Seminary at Louisville, Ky.

A. C. Ferguson, dean of faculty at East Texas State Teachers College, is now president succeeding the late Samuel H. Whitley.

Peter P. Mickelson, former president of Trinidad State Junior College, has been named president of Western State College of Colorado to succeed the late C. C. Casey.

Ralph E. Adams, dean of administration of the University of Alabama, has been named interim president until a successor to Raymond R. Paty can be chosen.

The Rev. Sam Hilburn, a former missionary who taught the Japanese language at the University of Colorado during the war, has been appointed president of Dakota Wesleyan University.

John Wilkinson Taylor, director of German education in the American occupied zone of Germany, has been appointed president of University of Louisville to succeed Einar W. Jacobsen, now head of Los Angeles City College. The acting president, Frederick W. Stamm, will continue on the job until Dr. Taylor takes over on May 1. Dr. Stamm will then become vice president in charge of business affairs.



## DIRECTORY OF ASSOCIATIONS

### Associations of College and University Business Officers

#### Central Association

President: C. D. Simmons, University of Texas; vice president: Herbert Watkins, University of Michigan; secretary-treasurer: T. E. Blackwell, Washington University.

Executive Committee: A. W. Peterson, University of Wisconsin; Lawrence R. Lunden, University of Minnesota; H. H. Brooks, DePauw University; William B. Harrell, University of Chicago.

Convention: May 8-9, Chicago.

#### Eastern Association

President: R. C. Magrath, University of New Hampshire; vice president: George E. Van Dyke, Syracuse University; secretary-treasurer: Boardman Bump, Mount Holyoke College.

Executive Committee: Samuel F. Agnew, Western Reserve University; Morris Cochran, Brown University; J. G. Vann, North Carolina State College; Don C. Wheaton, Sweet Briar College; Ervin T. Brown, Rollins College.

#### Southern Association

President: W. Wilson Noyes, University System of Georgia; first vice president: George R. Kavanaugh, Berea College; second vice president: W. T. Ingram, Alabama Polytechnic Institute; third vice president: Howard MacGregor, Agnes Scott College; secretary-treasurer: Gerald D. Henderson, Vanderbilt University.

Executive Committee: Jamie Anthony, Georgia School of Technology; E. H. Fisher, Southeastern College; J. B. Pay-singer, Columbia College; James F. Blair, Union College; C. B. Markham, Duke University.

Convention: April 18-19, Gulf Park College, Gulfport, Miss.

#### Western Association

President: J. Orville Lindstrom, University of Oregon; vice president: William Norton, University of California; secretary-treasurer: K. B. Sauls, Brigham Young University.

Executive Committee: O. D. Garrison, University of Idaho, Southern Branch; Nelson A. Wahlstrom, University of Washington; Robert D. Fisher, University of Southern California.

### Association of Business Officers in Negro Colleges

President: G. Leon Netterville Jr., Southern University; vice president: Isaiah Creswell, Fisk University; secretary: V. D. Johnston, Howard University; treasurer: Mark Birchette, Dillard University.

Executive Committee: Don A. Davis, Hampton Institute; Viola Means, South Carolina State College; L. H. Foster Sr., Virginia State College; W. A. Morgan, Bishop College.

### Educational Buyers Association

President: James J. Ritterskamp Jr., Washington University; vice president: Gerald D. Henderson, Vanderbilt University;

vice president: Charles Hoff, University of Omaha; vice president: H. B. Bentsen, George Williams College; treasurer: Edward K. Taylor, Cornell University Medical College; executive secretary: Bert C. Ahrens.

Convention: May 1-3, Omaha, Neb.

### Association of Superintendents of Buildings and Grounds of Universities and Colleges

President: L. F. Seaton, University of Nebraska; vice president: Paul H. Elleman, Ohio State University; secretary-treasurer: A. F. Gallistel, University of Wisconsin.

Executive Committee: L. F. Seaton, University of Nebraska; Paul H. Elleman, Ohio State University; A. F. Gallistel, University of Wisconsin; Henry E. Pearson, Indiana University; John J. Colgate, University of Pennsylvania.

Convention: May 12-14, Ohio State University, Columbus.

### Association of College Unions

President: D. R. Matthews, University of Florida; vice president: Douglas O. Woodruff, University of Utah; secretary-treasurer: Edgar Whiting, Cornell University; editor: Porter Butts, University of Wisconsin.

Convention: April 10-12, Illinois Union, University of Illinois, Urbana.

### American College Public Relations Association

President: Harold K. Schellenger, Ohio State University; vice presidents: research, E. Ross Bartley, Indiana University; membership, W. Henry Johnston, Colgate University; regions, Horace Renegar, Tulane University; radio, Elmer G. Sulzer, University of Kentucky; athletics, William H. Wranek, University of Virginia; secretary-treasurer: Max E. Hannum, Franklin and Marshall.

Publications: editor, Lorena Drummond, Southern Illinois Normal University; associate editor, Paul Faris, Hendrix College; business manager, Roy K. Wilson, National Education Association.

Convention: May 14-17, Coronado Hotel, St. Louis.

### National Association of College Stores

President: Norman M. Gay, Boston University Book Stores; vice president: A. W. Littlefield, Barnes and Noble, Inc., New York City; immediate past president: E. C. Rather, University Cooperative Society, Austin, Tex.; directors: Fred Davis, The Citadel Canteen, Charleston, S. C.; John H. Jenkins, St. Louis University Book Stores, St. Louis; H. H. Hays, Berea College Store, Berea, Ky.; George Racine, Student Book Exchange, Evanston, Ill.; manufacturer's representative: Charles Lofgren, Sanford Ink Co., Chicago; executive secretary: Russell Reynolds, 189 W. Madison St., Chicago.

Convention: April 27-30, Hotel Statler, Cleveland.

Jay J. Gerber has been appointed director of public relations of Northwestern University to succeed Thomas A. Gonser, who resigned early in



January to become director of personnel and public relations of Lever Brothers Co. Mr. Gerber has been on the Northwestern staff since 1937, serving as assistant to the director of public relations in 1937-38, as director of new students from 1938 to 1941 and as secretary of the Century Fund in 1941-42.

Mrs. Mildred McAfee Horton, president of Wellesley College and wartime head of the Waves, is the new president of the Association of American Colleges.

Eldridge T. McSwain, professor of education at Northwestern University, has been appointed director of the university's summer session. He succeeds Herbert E. Dougall who has joined the faculty of Stanford University.

H. A. Hazleton, business manager of the Chicago colleges of the University of Illinois, has assumed responsibility for business operations at the new undergraduate branch recently established by the university on Navy Pier, Chicago. W. R. Williams, former senior purchasing assistant in the Chicago office of the University of Illinois and recently a navy lieutenant, serves as assistant to Mr. Hazleton.

Jack V. Talbot has been named full time executive assistant in the alumni service of the University of Iowa. He will work with Dr. Bruce E. Mahan, director of alumni service, in the accelerated program being developed by the alumni association in connection with the university's centennial.

Dr. John Milton Potter, president of Hobart and William Smith Colleges at Geneva, N. Y., died recently of a coronary occlusion at the age of 40.

F. Faith McAuley, former associate director of residence halls and commons at the University of Chicago and an assistant professor of home economics and institution management, died recently at the age of 71.




# PRODUCT INFORMATION

Information on the materials, equipment and supplies with which an institution is built, operated and maintained and which are used in its various departments is of vital interest to those charged with the business operation. College and University Business recognizes the importance of this information and believes it has rendered a real service by grouping manufacturers' announcements and new product descriptions into a separate part of the magazine. We believe this is an infinitely better plan than to mix such information through the editorial pages where it becomes obscure and confusing.

You will find manufacturers' advertisements from pages 45 through 72. Pages 66-71 contain descriptions of new products and items of interest. Further details on any product advertised or described may be obtained without obligation and with a minimum of effort by use of the postcard below.

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*This card is detachable and is provided for your convenience in obtaining information on all items advertised in this issue or described in the "What's New" Section. See reverse side.*

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NAME

TITLE

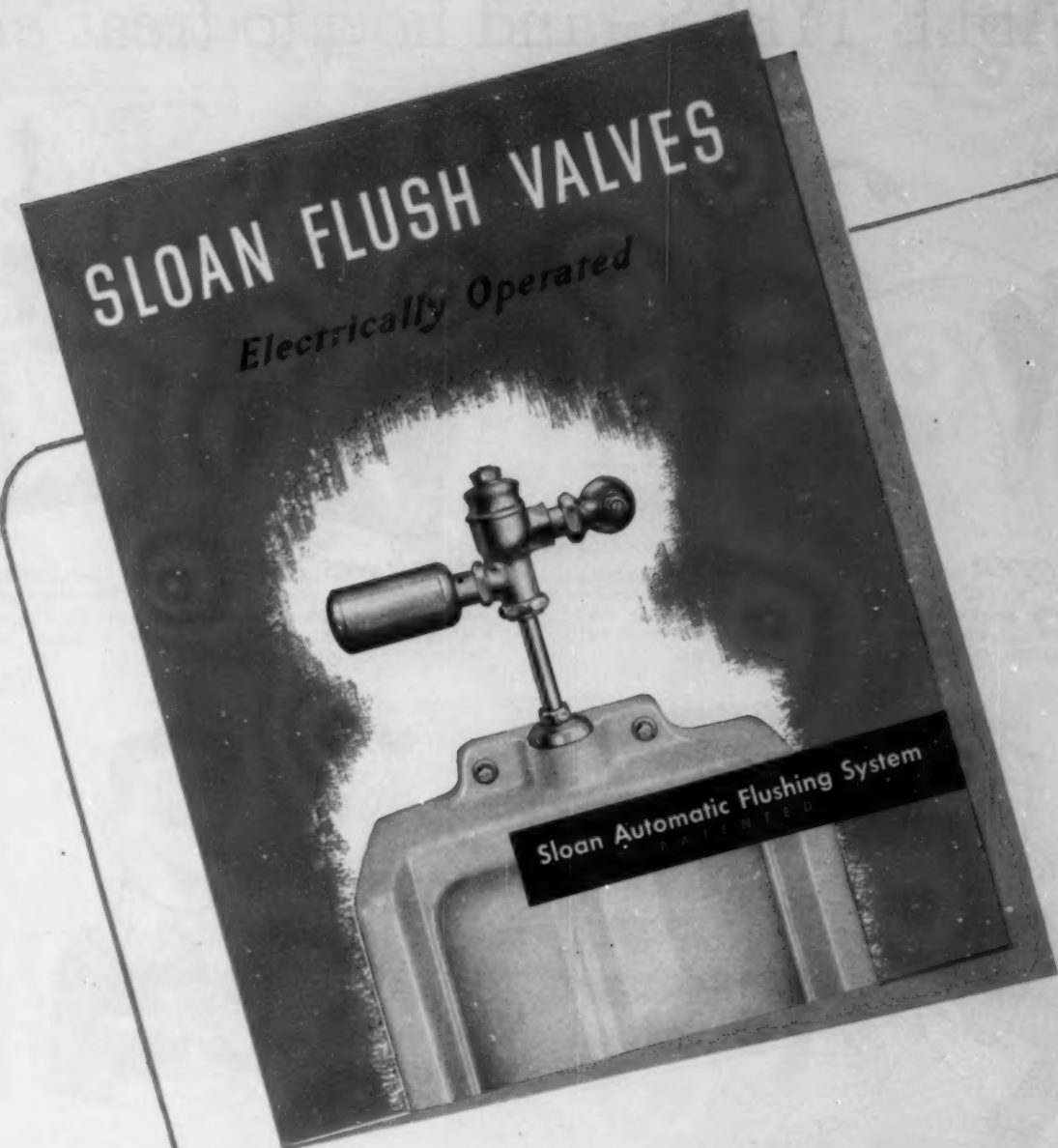
INSTITUTION

ADDRESS

CITY

ZONE

STATE



another  
Sloan  
first

The Sloan Automatic Flushing System is designed principally for the *automatic* operation of Sloan *urinal* Flush Valves—and is adaptable to *old* as well as new installations.

With Automatic Flushing in public or semi-public toilet rooms, neglect to flush urinals is entirely eliminated—more hygienic conditions assured—and better house-keeping of the toilet room encouraged on the part of building tenants, company employees, customers and the public.

In special installations such as sanitariums, hospitals, institutions and prisons, the responsibility of the individual to operate the flush valve is entirely eliminated with Automatic Flushing.

For further information, or information on your specific installation, write to the Sloan Valve Company, or address the Sloan representative in your territory.

**Sloan Valve Company**

**chicago 24, illinois**



# TABLE TYPES—and how to treat 'em



**KIBITZER** Snoops at other tables to see if he's missing a trick . . . TIP: When you serve Kellogg's Individuals, put the package on the table. Other patrons who kibitz will order—add extra items to their breakfast checks, too, when they spot the familiar box.



**"HMMM-ING" BIRD** Drives waitresses wild as she hovers over "anonymous" cereals . . . TIP: Show names she knows on your menus—Kellogg's Corn Flakes, Kellogg's 40% Bran Flakes, etc. (More people prefer Kellogg's than any other brand.)



**CANARY** Eats barely enough breakfast to keep alive . . . TIP: Display your Kellogg's Dispenser where it suggests an added dish. You'll both win—she gets a nourishing Kellogg's cereal while you make another sale.



**CONNOISSEUR** Loyal to his likes—and he likes everything Kellogg's! More new customers are being created every day by Kellogg's advertising in newspapers, magazines, on the air, out of doors . . . SURE THING: It pays to cash in on this advertising by serving Kellogg's!

*For Bigger Breakfast Business...*

**FEATURE the FAVORITE!**

Breakfast business is better when you back Kellogg's—it's first in America's favor! A cereal for every "TABLE TYPE"—Kellogg's Corn Flakes, Rice Krispies, Pep, All-Bran, Kellogg's Raisin Bran Flakes, Kellogg's 40% Bran Flakes, Kellogg's Shredded Wheat.

**Kellogg's** THE GREATEST NAME IN CEREALS  
Battle Creek and Omaha



# Forever Free!

Old Freedoms are here with 1947.

We have resumed the right of free choice and bargaining in the market place.

Are you who feed America's millions fully prepared to carry on this American tradition?

Now is the time to plan replacements of worn Utensils with CRUSADER Stainless Wares and be "forever free" of rust, corrosion and food contamination.

The bright lustrous surface of CRUSADER Stainless Utensils helps to preserve natural food flavor, color and nutritional value. Durability, Economy, and Efficiency have been built into every piece of CRUSADER Ware by L. & G. craftsmen who have been making quality Utensils for over 90 years.

Ask your Dealer about CRUSADER Stainless Wares and be "Free" of Utensil problems for years to come.



## CRUSADER STAINLESS WARES



IRVINE AUDITORIUM

University of Pennsylvania



## WHAT CARILLONIC BELLS MEANS TO THE UNIVERSITY of PENNSYLVANIA

Enthusiasm for Schulmerich CARILLONIC BELLS runs high at this famous university, where it is considered "the finest instrument of its type." They have found at Penn that CARILLONIC BELLS, playing at regular intervals throughout the day, helps coordinate the activities among the scattered buildings and classrooms—practically an impossibility, otherwise.

Penn also feels that CARILLONIC BELLS, heard throughout the stadium at football games, adds an enjoyable—and cultural—touch. And the comments from delighted residents in the neighborhood have been extremely gratifying.

Besides its use as a warm and appealing tower instrument, Schulmerich CARILLONIC BELLS can also be used to enhance the organ music of your chapel. Hundreds of institutions throughout the country have acquired a welcome voice in their communities through beautiful CARILLONIC BELLS. We'll be glad to answer any inquiries; address Dept. COL-1.



**Schulmerich**  
ELECTRONICS, INC.

SELLERSVILLE, PA.

CARILLONIC BELLS • TOWER MUSIC SYSTEMS • ACOUSTIC CORRECTION UNITS  
SOUND DISTRIBUTION SYSTEMS • CHURCH HEARING AIDS

EXPERTS DON'T DO  
IT THIS WAY!



Eliminate "trial and error"  
by planning *first* with

# MEDART

Whether you plan to build a new school, remodel your old one or are simply adding one or a few new pieces of much needed equipment... make use of Medart's planning and engineering service... **FIRST!** Costly mistakes, particularly in larger installations, can be avoided by allowing the architect, the builder to work together with Medart engineers whose experience and leadership in the field of gym seating, locker room equipment, and physical fitness apparatus is unquestioned. Medart will assist you in planning your additions soundly, economically, and with proper regard for architectural building requirements. This Medart service is without cost or obligation, of course.

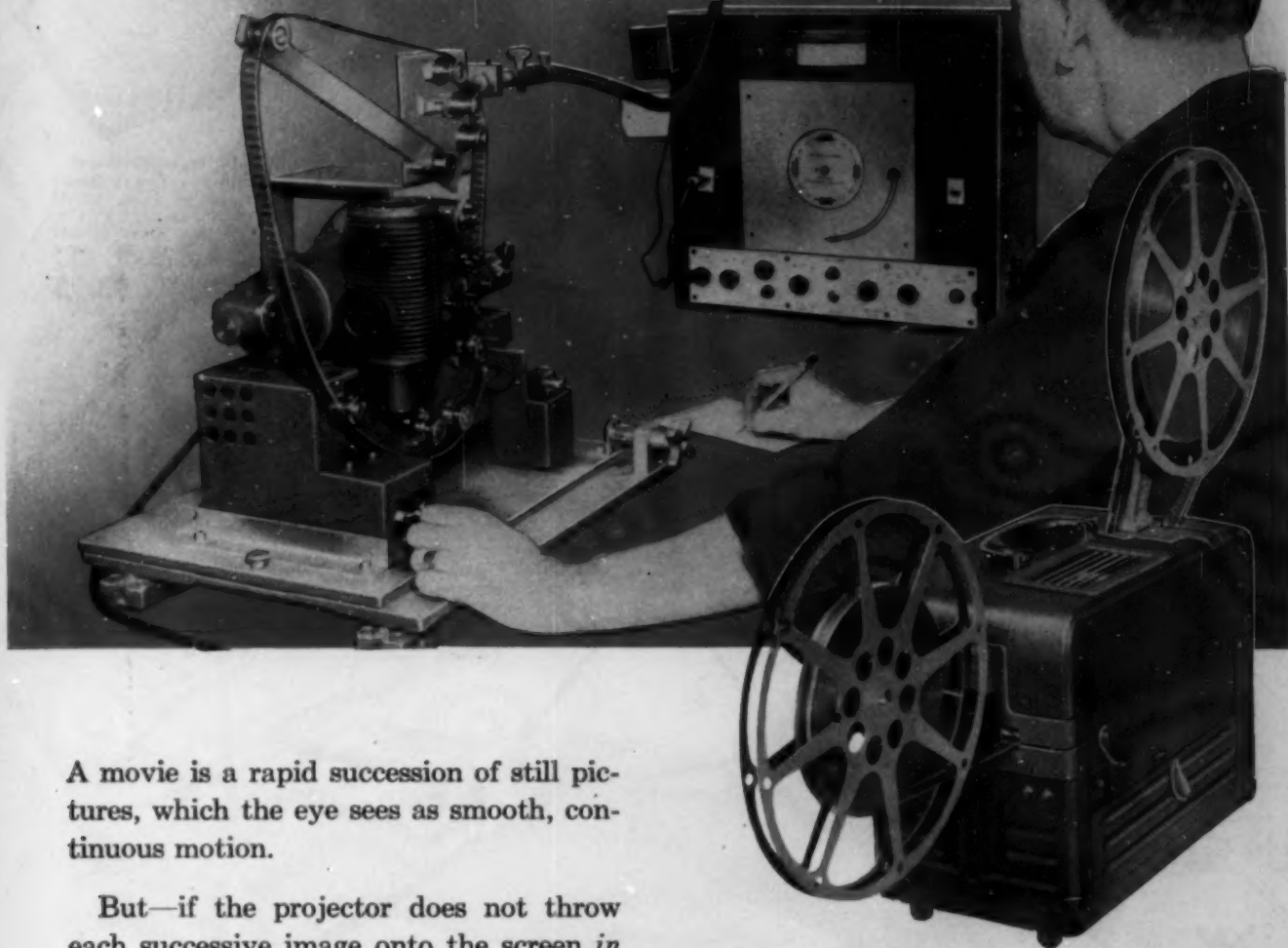
**Medart Makes the Following Equipment . . .**

**Steel Lockers • Steel Lockerobes • Gymnasium Apparatus • Telescopic Gym Seats  
Basketball Backstops • Basketball Scoreboards • and the new Acromat-Trampolin.**





# Why Filmosound movies don't jiggle



A movie is a rapid succession of still pictures, which the eye sees as smooth, continuous motion.

But—if the projector does not throw each successive image onto the screen *in precisely the same spot*, the picture will jiggle and jump.

Every Filmosound projects rock-steady movies, because each must pass an exacting steadiness test. Through a special test film, the Filmosound throws a light beam on a Steadiness Indicator which measures in hundredths of one per cent the amount of picture jump.

*No Filmosound is ever released if it registers a jump visible to the human eye!*

**THAT'S What WE Mean by Precision-Made!**

OPTI-ONICS—products combining the sciences  
of OPTics • electrONics • mechanICS



Filmosound's brilliant 1000-watt illumination, plus new coated lens, floods the screen with bright, flicker-free pictures—even in large rooms and halls. Sound is natural and undistorted at all volume levels. Operation is simple and *dependable*.

Write today for descriptive booklet. Bell & Howell Company, 7192 McCormick Road, Chicago 45. Branches in New York, Hollywood, Washington, D. C., and London.

**Bell & Howell**

Since 1907 The Largest Manufacturer of Professional Motion Picture  
Equipment for Hollywood and the World

Write Us About Your  
Furnishing Requirements

# EVERYTHING FOR THE

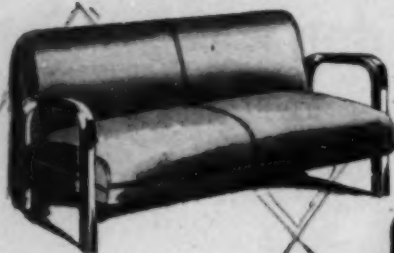
## Desk Lamp

Bronze finish.  
Maximum Height  
12 1/2", extends  
17". 6 1/2" metal  
shade to match.  
2E-138  
each **\$3.25**



## I. E. S. Lamp

Parchment shade and  
Bronze finish base.  
Ht. over-all 27". Ht.  
to bottom of shade  
18 1/2".  
2E-142  
each **\$7.75**



## Aluminum

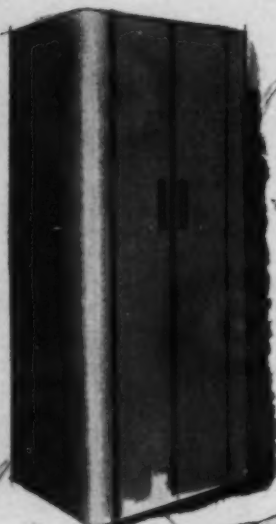
### Settee - Chairs

2F-190 3 Cushion,  
\$91.95 each  
2F-188 2 Cushion,  
\$73.75 each  
2F-187 Chair,  
\$52.00 each



## 10 Year Guarantee

**Downy - Tex Pillows**  
Covered in 8 oz. A.C.A.  
tick. Size 21" x 27".  
Filled with new feathers  
goose, duck, and some  
down.  
2F-316  
each **\$5.95**



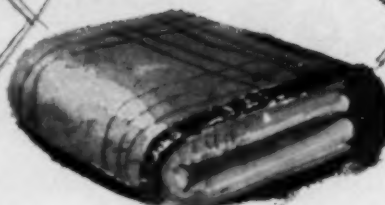
## Wardrobe

Made of Duron hard-  
wood plastic. Ht. 72",  
width 33", depth 21"

As shown

**\$24.50**

With lock \$28.50



## Part Wool Blankets

Size 62" x 84", 63% reprocessed  
wool, 15% rayon. Wt. 3 1/2 pounds.  
Color Gray. Packed 25 per carton.  
Not satin bound.  
1-5104D each **\$4.95**



**Masland Duron Coverings**  
Solid Elm frames—No-Sag Springs.  
Wheat finish.

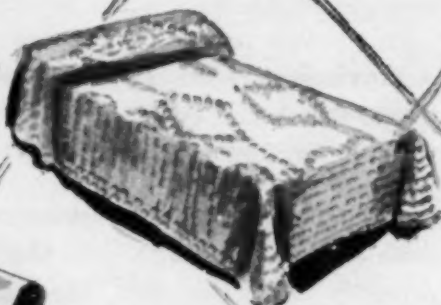
Sofa **\$64.50**

Chair **\$39.50**

Cocktail

Table **\$15.75**

4-929  
F.O.B. Wisconsin



## Chenille Bedspreads

Assorted colors. Full size packed 28 per  
case, twin size packed 30 per case.

1-4146—Full size, case price, each **\$8.00**

1-4146—Twin size, case price, each **\$7.50**



**Aluminum  
Costumer**  
72" Ht.  
each

**\$14.50**



## Metal Sand Urn

Chrome trim 12"  
diameter. Ht. 20".  
4-761  
each **\$7.95**



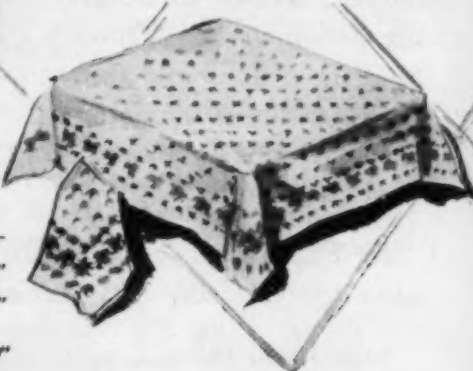
## Table Cloths

Ivy pattern, mercer-  
ized Basco finish.  
1-3101—45" x 45"  
Doz. **\$19.47**

1-3102—54" x 54"  
Doz. **\$26.22**

## Napkins

1-3306—20" x 20"  
Doz. **\$4.20**



# Clark Linen & Equipment Co.

303 W. Monroe St., Chicago 6, Ill.  
Phone: STAt 0520

Established 1899

3841 N.E. Second Ave., Miami 37, Fla.  
Phone: Miami 7-5781

# SCHOOL OR COLLEGE

All Prices  
F.O.B. Chicago  
Unless Otherwise Stated



## Study Desk

Walnut or Maple  
finish. Top 38" x  
19". Convenient  
drawer and shelf  
spaces.  
4-510 **\$19.95**  
F.O.B. Tennessee

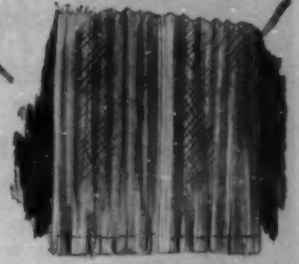


## Chest

Hardwood construc-  
tion finished Walnut  
or Maple. Ht. 42".  
Width 30". Depth  
16". Ideal for dorm-  
itories.

**\$22.90**

F.O.B. La.



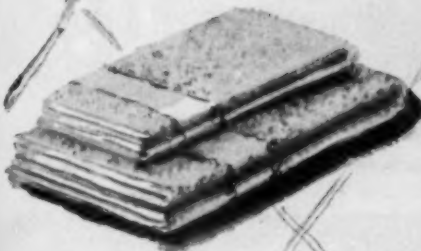
## Scrim Curtains

Choice of White or  
Suntan. 35" x 2 1/4  
yards. Headed top  
and bottom.  
1-6205 pair **\$2.45**



## Twin Size Bed

36" Maple finished  
wood. Dormitory bed.  
COMPLETE WITH  
BUILT IN SPRING. ea. **\$17.95**

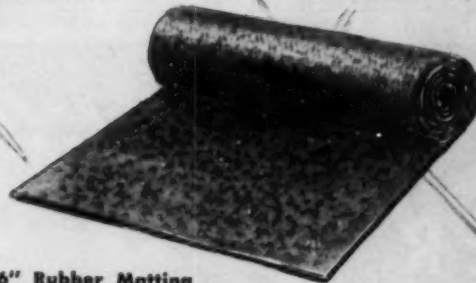


## Bath Towels

Double thread all White  
Terry cloth.

1-2123 — 18" x 36"  
Doz. **\$5.83**

1-2135 — 20" x 40"  
Doz. **\$7.25**



## 36" Rubber Matting

Wrinkle surface. Genuine  
rubber construction. 1/8"  
thick. 50 yd. rolls.

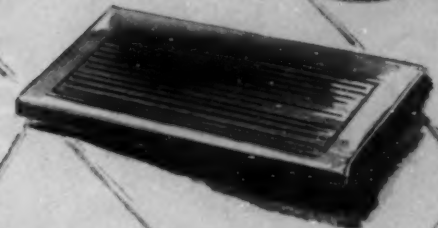
3K-928 — Yard **\$1.95**

## "Swee-Gee" Door Mat

Genuine rubber  
link mat. Size  
20 3/4" x 34 1/2".  
3K-926 each **\$3.75**



I.E.S. Floor Lamp  
Metal, Bronze finish.  
Base 9". Parchment  
shade 10" x 20".  
2E-143  
Lots of 12, **\$12.65**  
each



## Stair Treads

Corrugated top with  
extra firm overlap. Size  
9" x 24".

3K-931 Doz. **\$5.65**



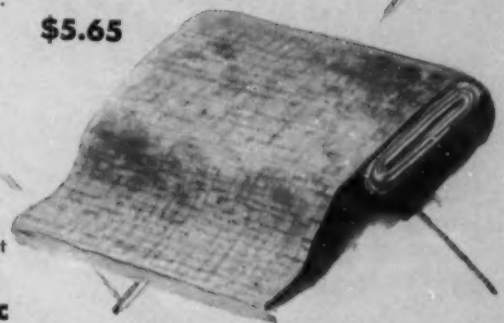
## Duraluminum Dish Truck

Satin finish. Shelves  
are stainless steel. Ht.  
33 1/2". Shelf size  
18 3/8" x 29 3/8".

each **\$48.75**  
F.O.B. Factory

## Dish Toweling

Boat White absorbent  
toweling 18" wide.  
1-2300, per yd.  
Huck  
Towels **32 3/4c**



# Clark Linen & Equipment Co.

303 W. Monroe St., Chicago 6, Ill.  
Phone: STAtE 0520

Established 1899

3841 N.E. Second Ave., Miami 37, Fla.  
Phone: Miami 7-5781



# MAINTENANCE COSTS COME DOWN WHEN 'SEXAUER' GOES IN!



## STOP WASTE THIS MODERN WAY

To cut water and fuel bills, slash labor costs and prolong fixture life, first use this pat'd. 'SEXAUER' Precision Tool. It re-forms rough, raised, washer-chewing faucet seats to a smooth, round, corrosion-resisting surface—better than when new. Fits all faucets and many small valves.

Then install pat'd. "EASY-TITE" 300° F. Faucet Cushions. Built of easy-closing DU-PONT NEOPRENE (not fibre or rubber), they withstand extreme hot water. Fabric-reinforced like a tire, "EASY-TITES" outlast ordinary washers 6-to-1, won't split or mush out of shape.

## FREE 102-Page Catalog

Lists over 2,000 'SEXAUER' Triple-Wear Replacement Parts and Precision Tools for the maintenance of existing plumbing and heating systems, as advertised in THE SATURDAY EVENING POST and standard with leading engineers everywhere. Write for free copy.

J. A. SEXAUER MFG. CO., Inc., DEPT. V1,  
2503-5 THIRD AVE., NEW YORK CITY 51.

# SEXAUER

SPECIALISTS IN PLUMBING AND HEATING  
MAINTENANCE MATERIALS FOR OVER 25 YEARS

# Checker

## COAT and HAT RACKS

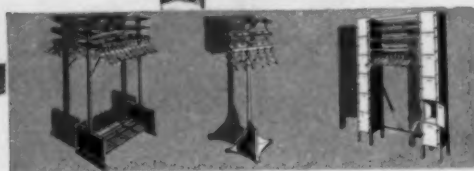
## Modern Steel Construction

Come in convenient lengths to fit in anywhere.

Individual coat rack units for self-service to complete Checkroom layouts with the "One-Check" numbering system.

Widely used in industry—placed near point of work. Keep wraps aired and in press—save space.

Stationary and Portable units.



Write for  
Bulletin  
No. H-16

## VOGEL-PETERSON CO.

624 South Michigan Ave., Chicago 5, U.S.A.

For Colleges and Universities  
there can be

# NO FINER MEMORIAL

than a Genuine  
DEAGAN CARILLON

... the Tribute that Becomes  
THE VOICE OF THE CAMPUS

The  
Time-Tested  
Product of a  
Time-Honored  
Firm



More than  
65 Years'  
Service to  
Churches and  
Universities

Write for Interesting Details

## J. C. DEAGAN, Inc.

379 Deagan Bldg., 1770 Berteau Ave., Chicago 13

# Lasting Dependability



No. 2317-W

Write  
**CLARIN MFG. CO.**

4630 W. Harrison St.  
CHICAGO 44, ILL.

There are more *Clarín* steel folding chairs  
in institutional service than any other make

# From the Complete *Finnell* Line You CAN CHOOSE EXACTLY The Floor-Maintenance Equipment You Need

That is because *Finnell* makes machines for *every* type of floor care and in sizes designed to fit specific needs. From the complete *Finnell* line, it is possible for you to choose equipment that provides the greatest brush coverage consistent with the area and arrangement of your floors... whether the equipment is for wet scrubbing, dry cleaning, waxing, or polishing.

The *Finnell* Scrubber-Vacuum shown at right (one of several) speeds the cleaning of corridor and other large-area floors. It is self-propelled and a complete cleaning unit *all in one*. Applies the cleanser, scrubs, rinses, and picks up. Has a cleaning capacity up to 8,750 sq. ft. per hour!

The Motor-Weighted *Finnell* shown below at left is equipped with a *Feather-Touch* Safety Switch that provides *complete* automatic switch control. Switch works with either hand from either side of handle. When handle is released, machine stops. Self-propelled... glides over floor with virtually effortless guidance. Five sizes: 11, 13, 15, 18, and 21-inch brush diameter. Inset shows machine with *Finnell* Dispenser for hot waxing.

The *Finnell* shown below at right can be reduced to a smaller size machine (see inset) for smaller areas. Note how easily this *Finnell* goes beneath furnishings. Divided weight makes it exceptionally easy to operate. Yet it is powerful... fast... thorough. Four sizes: 11, 13, 15, and 18-inch brush diameter.

*Finnell* also makes a full line of *Cleansers, Sealers, and Waxes*, as well as *Steel-Wool Pads, Mop Trucks*, and other accessory equipment. For consultation, free floor survey, or literature, phone or write nearest *Finnell* branch or *Finnell System, Inc.*, 4401 East Street, Elkhart, Indiana.

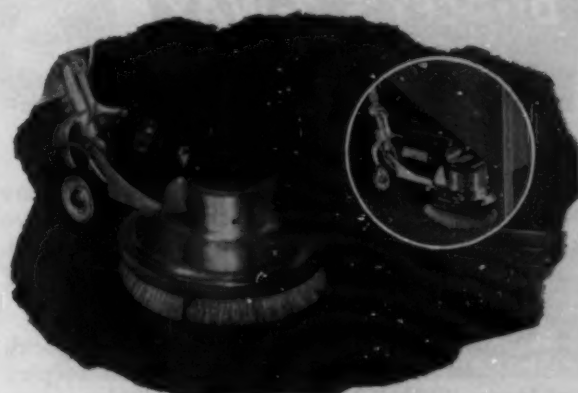
Three of  
MORE THAN  
A SCORE  
... of Models  
and Sizes ... Each  
Designed to Meet  
Specific Needs



A *Finnell* Scrubber-Vacuum for Cleaning Large-Area Floors.



A Motor-Weighted *Finnell* for Dry Cleaning, Polishing, Waxing. Also Wet Scrubs, Sands, Grinds.



The *Finnell* Scrubber-Polisher-Waxer that's Two Sizes in One!

## FINNELL SYSTEM, INC.

*Pioneers and Specialists in*

FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES  
IN ALL  
PRINCIPAL  
CITIES

PROTECT HEALTH IN YOUR SCHOOL



**Dirty hands**  
*Carry* **germs**

**LIQUA-SAN PROMOTES CLEANLINESS**

LIQUA-SAN "C", the liquid soap, touches nobody's hands but yours. It penetrates, removing germs as well as dirt. Economical? It surely is . . . for this highly concentrated soap may be diluted with three or four parts of water for general use. Write today for sample and demonstration.

**40%**  
SOAP SOLIDS

**HUNTINGTON LABORATORIES, INC.**  
HUNTINGTON, INDIANA



**LIQUA-SAN "C"**

CONCENTRATED LIQUID TOILET SOAP

**LOCKER PROBLEMS**  
**VANISH**  
with  
**DUDLEY'S 2-WAY**  
**Lock Program**



RD-2

1. On-the-spot Dudley representatives are ready to help solve your locker administrative problems quickly with *personal* consultations. This is only one extra service provided by Dudley reps.

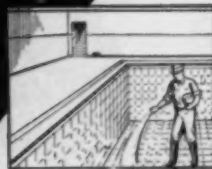
2. Dudley will supply you with sturdy, dependable locks that are extremely difficult to pick or force . . . that have proved themselves over a 25-year period as America's favorite school lock!

Write today for full details on the Dudley line!

**DUDLEY** LOCK CORP.

Dept. 122 • 570 W. Monroe St. • Chicago 6, Ill.

*Removes Stubborn*  
**GRIME**



SAF-T-KLENZ is scientifically compounded to remove hard, stubborn grime and stains that defy ordinary cleaners. It is a specific for removing lime deposits, rust stains, heavy deposits of soap and body greases, ground-in dirt that is too tough for ordinary cleaners.

Secret chemicals used in SAF-T-KLENZ do the work that hard rubbing and scrubbing alone can't do. Yet SAF-T-KLENZ is harmless to hands, clothing or drains. Recommended for cleaning porcelain drinking fountains, shower rooms, washbowls and toilets . . . and for removing algae and stains from tile swimming pools.

**WRITE FOR FREE SAMPLE**

SAF-T-KLENZ comes in handy, economical, dry powder form . . . packed in bulk. No moisture, no fancy packages to pay for.

Sold with a guarantee of satisfaction or no pay.

**SAF-T-KLENZ**

**BERMAN CHEMICAL CO.**

DEPT. 601, TOLEDO 2, OHIO



# HERMAN NELSON'S winning combination for better heating and ventilating results . . . .

**H**ERMAN NELSON has gone a step farther than designing and manufacturing heating and ventilating equipment recognized all over America for its efficiency and economy of operation.

In addition, Herman Nelson offers you "Product Application Engineering" — the scientific and practical application of the exact type, size and model of equipment to best solve any heating or ventilating problem.

You will find Herman Nelson Product Application Engineers thoroughly familiar with heating and ventilating problems involved in any new school construction or remodeling project. They are ready with practical as well as technical assistance.

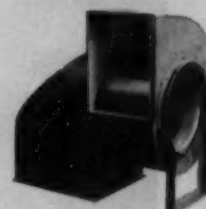
Thousands have learned that Herman Nelson Products plus Herman Nelson Product Application Engineering provide a winning combination from the standpoint of more efficient operation and economy.



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Unit Heaters



Herman Nelson  
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**THE HERMAN NELSON  
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**MOLINE, ILLINOIS**

for 40 years manufacturers of quality heating  
and ventilating products

*Fill in and mail this coupon*

If You Want a Product Application Engineer to  
Assist On any Heating or Ventilating Problem

THE HERMAN NELSON CORPORATION  
Moline, Illinois

*Yes*

I would like to discuss heating and ventilating  
with your nearest Product Application Engineer.  
There is, of course, no obligation on my part.

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Name of Institution

\_\_\_\_\_  
City

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State

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My Name

\_\_\_\_\_  
My Title

# The CHAIR You've



AVAILABLE IN FOUR RICH UPHOLSTERY  
COLORS: RED, GREEN, BLUE, IVORY.



Here's a chair so good looking you'll be proud of it. It harmonizes perfectly with any setting. Yet it's made to stand up under punishing daily use. Consider its many features. Then have your local supply house show you this chair, or mail the coupon at the right.

# Been Looking for...

**This new Wear-Ever Aluminum Chair combines beauty and seating comfort with strength and lasting economy. You can use it anywhere.**

**STRONG**—A 200 lb. load was put on this chair, which was then rocked mechanically, with a  $4\frac{1}{2}$ " drop on each "rock." After 100,000 "rocks" the chair was still tight and unchanged in its dimensions. It's a self-leveling chair made of high yield strength, extruded aluminum alloy.



**LONG WEARING**—The rich, lustrous, silvery Alumilite finish is integral with the metal,

can't peel, crack or chip. Won't even show finger marks. Chair is unaffected by heat, cold, dryness or dampness. Upholstery is a heavy, washable fabric that wears like iron, is easy to keep clean.

**BEAUTIFUL**—Graceful, smart-looking, harmonizes with any surroundings. Finished with black plastic finials and non-marring leg glides. Available in a choice of rich upholstery colors: Red, Green, Blue, Ivory.

**COMFORTABLE**—Shaped seat and posture design makes these chairs comfortable even after hours of sitting. Just try them yourself.

## ADAPTABLE

Here are some of the places this new chair can be used...

Dormitories  
Study Rooms

Dining Rooms  
Cafeterias  
Offices

Libraries  
Conference Rooms

# WEAR-EVER Aluminum Chairs

## Mail This Coupon Today

Fill out and send to your supply house, or to The Aluminum Cooking Utensil Co., 4001 Wear-Ever Bldg., New Kensington, Pa.

Gentlemen:

We would like to see the new Wear-Ever Aluminum Chair. Preferred color: ☐ Red ☐ Green ☐ Blue ☐ Ivory  
Also, please give us a quotation on.....Chairs.

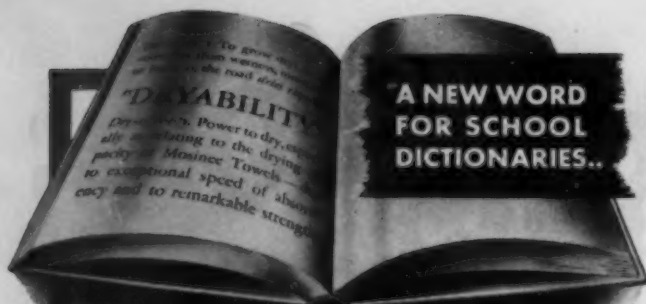
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A NEW WORD  
FOR SCHOOL  
DICTIONARIES..

## "DRYABILITY"

Mosinee Towels long have been famous for the superior strength and absorbency of their pure sulphate material—plus its softness to the skin. These features give Mosinee Towels their outstanding DRYABILITY—for top-notch performance with long-term economy. Right now the supply is limited, but there'll come a time when these fine towels can become a part of your washroom service at a cost no greater than for harsh, flimsy ordinary towels.



Member of Na-  
tional School  
Service Institute.

**BAY WEST PAPER CO.**

Green Bay, Wisconsin

A DIVISION OF MOSINEE PAPER MILLS CO.

**Mosinee**

**SULPHATE TOWELS**

PREP-TOWLS • ZIP-TOWLS  
TURN-TOWLS • ROLTOWLS

# BRITEN-ALL



**FLOORS ARE CLEAN  
WHEN**

**PORES ARE CLEAN**

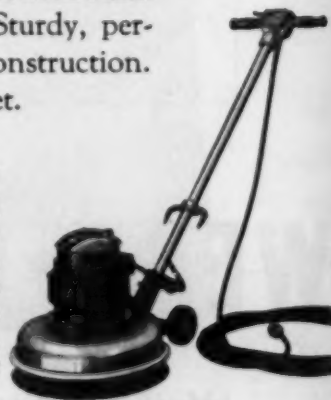
BRITEN-ALL not only removes surface dirt from floors, but also routes out the *underneath grime*. It penetrates . . . cleans the pores in the floors. You'll be delighted how BRITEN-ALL restores original beauty in the dirtiest floors . . . how it saves material costs and labor. Absolutely safe too. BRITEN-ALL contains nothing to injure ANY floor. Try it.

## VESTAL ELECTRIC FLOOR MACHINE

Scrubs and polishes FASTER.  
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Exceptionally quiet.

## VESTA-GLOSS

A scientifically balanced waterproof heavy duty floor finish that dries to a bright uniform lustre without polishing. Use it in cooperation with BRITEN-ALL to protect your floor investment.



For information and catalog, write Dept. C

**VESTAL INC.**  
ST. LOUIS NEW YORK



## an economical 16mm. sound projector

A moderate priced, easy to operate projector for those who desire high quality 16 mm. sound projection — where such features as still pictures, reverse operation, and the combination of sound and silent speeds are not required.

The "Century" is of extremely simplified design to bring it within the price range of limited budgets — yet it incorporates these basic Ampro features that make for unusual ease of threading and operation — for efficient, brilliant projection and superb tone reproduction — and for long years of satisfactory service even under adverse conditions. These features include: Centralized

Panel Control, Easy Threading System, Fast Automatic Rewind, Triple Claw Movement, Centralized Lubricating System, Rotating Sound Drum, and many others. The "Century" is adapted for use in homes, classrooms, average sized auditoriums and by industry.

Write for complete information — prices, specifications and full details on Amprosound "Century."



Ampro  
Corp.,  
Chicago 18,  
Illinois

8 mm Silent • 16 mm Silent  
16 mm Sound-on-Film • Slide Projectors  
16 mm Arc Projectors

### AMPRO CORPORATION

2835 N. Western Avenue, Chicago 18, Illinois

Please send me full details on the new Amprosound "Century" 16 mm. Sound-on-Film Projector. I am also interested in:

- ☐ Amproslide "2 x 2" Projector      ☐ Amproslide Model "30-D" Dual Purpose Projector  
☐ Ampro 8 mm. Silent Projector.

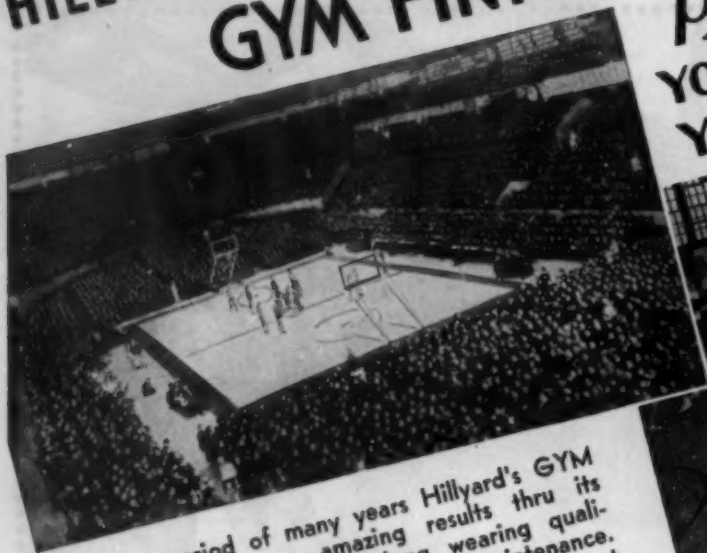
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A General Precision Equipment Corporation Subsidiary

# HILLYARD'S GYM FINISH

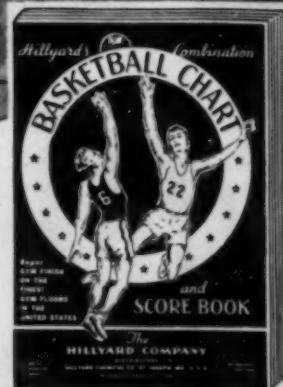


Over a period of many years Hillyard's GYM FINISH has shown amazing results thru its saving of floor surfaces, long wearing qualities, beautiful finish and ease of maintenance. Used on thousands of the Nation's largest gyms, twelve years on famous Madison Square Garden floor. Call or wire us for a Hillyard Maintenance Specialist, his advice and recommendations are FREE.

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**YOUR FLOOR, YOUR PLAYERS,  
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COACHES... write for  
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DISTRIBUTORS... HILLYARD CHEMICAL CO... ST. JOSEPH 1, MO... BRANCHES IN PRINCIPAL CITIES  
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### A Gift to Posterity

The music of MAAS Genuine Cathedral Chimes is a herald of goodwill to all people... a timeless record of the memory of our beloved.

The distinctive, rich, clear tones of MAAS Chimes are the result of expert craftsmanship... precise design use of the finest materials. Their cost is no higher, their value immeasurably greater.

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### GENUINE CATHEDRAL CHIMES

## SERVICE

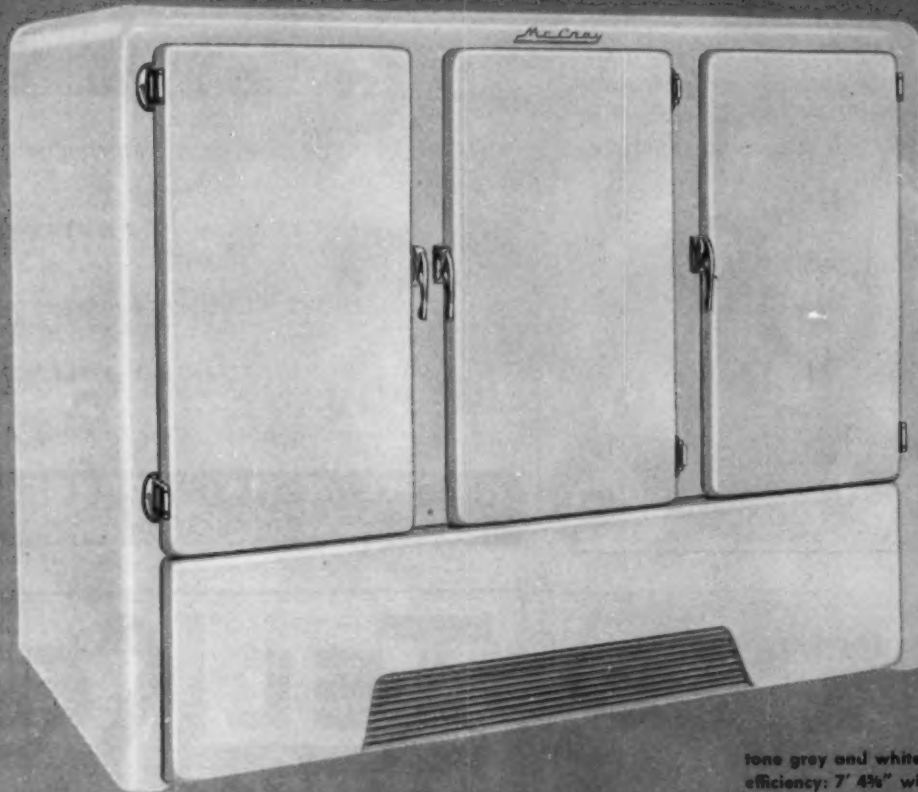
Between editorial material and advertising pages in this and every issue—there's a detachable, postage pre-paid card... to help you get product information on one or a dozen items with a minimum of effort and time. As you read the advertising pages and the descriptions in the "What's New" section, check the items that interest you... use the card. Sign it, mail it. The manufacturer of each item checked will be asked to send you complete details, no charge, no obligation.

### COLLEGE and UNIVERSITY BUSINESS



# The Last Word

in modern refrigeration for institutions



New McCray Reach-In Refrigerator with 60 cu. ft. capacity. Interior all-steel, welded shell, "monocoupe" construction. DuPont DuLux two-

tone gray and white exterior... new beauty, efficiency: 7' 4 3/4" wide, 2' 9" deep, 6' 1 1/4" high. Also available in 40, 30, 20 and 12 1/2 cu. ft. capacities.

## McCray KOLDFLO

... the new modern, completely self-contained  
**Reach-In Refrigerator perfected by McCray engineers.**

Here is the final word in effective refrigeration for the modern institution kitchen... featuring McCray KOLDFLO "PACKAGED" Refrigeration—a completely modernized one unit system, giving low cost, efficient protection.

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For full details of these startling new McCray Koldflo Reach-In Refrigerators (available in solid or glass styles), see your McCray distributor, or write—



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## IS COLOR SAFE IN SCHOOLS?

In Texas schools this light-reflective paint gives important aid to

startling educational growth

Send today for literature describing the improvement in educational growth and improved well-being that comes from modernizing schoolrooms according to the "Texas Plan" as developed in the Mexia, Texas, Public Schools under the direction of Dr. D. B. Harmon.

# LUMINALL

Luminall, the light-reflective paint for interiors, is one of the important factors in securing these benefits for your students.



your school can do it, too!

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## FLOOR MATTING

for Promoting Safety • Providing Comfort • Reducing Fatigue  
Furthering Sanitation

### EZY-RUG Rubber Link MATTING

Traps dirt at the door and prevents tracking through building, reduces cleaning and redecorating costs. For entrances and corridors. Available with lettering.

### TUF-TRED TIRE FABRIC MATTING

For corridors, entrances, shower and locker rooms, kitchens, back of counters, around machinery.  $\frac{3}{8}$ " thick, up to 6' wide, any length.

### AMERITRED SOLID PLASTIC FRICTION MATTING

For ramps, stairs, landings, shower and locker rooms, entrances, in front and back of counters. Good scrapage. 29" x 62" x 9/64" sections. Can be laid side by side, or trimmed for small or odd shaped areas.

### AMERICAN Counter-Tred MATTING

A durable rubber and cord matting for lavatories, shower and locker rooms, swimming pools, and behind counters.  $\frac{3}{8}$ " thick, approximately 24" wide, any length.

### AMERIFLEX Hardwood Link MATTING

Links are held on galvanized steel springwire framework. Can be rolled or folded.

### "WALRUS HIDE" Roll-Rubber MATTING

A quality runner for hallways, corridors and aisles. 36" wide,  $\frac{1}{8}$ " thick, approximately 60 yards long.

Write for prices and folder "A Mat for Every Purpose."



## AMERICAN MAT CORPORATION

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QUIET, QUICK-DRYING,  
TROUBLE-FREE!

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*Hair Dryer*

\*Trade Mark

Now... a fully-tested heavy-duty hair dryer built for hard, continuous service in schools and clubs. Dries hair thoroughly in 3 to 5 minutes! Reduces colds. Speeds locker room traffic. Safe, quiet, rugged efficient, dependable! Fully guaranteed. Write for present prices and quick delivery schedules.

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Dept. A1, 209 W Jackson Blvd.  
Chicago 6, Illinois

Please rush present prices and delivery schedules on Electric-Aire heavy-duty hair dryer.

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## VISIBLE KEY CONTROL

A complete indexing system for the care of keys:

- 1 TELKEE is a tried and proven Visible Key-Filing—Key FINDING System.
- 2 Whether there are a few keys or thousands of keys — TELKEE is simple and effective.
- 3 It is the perfect system for knowing your keys — knowing where they are when you want to use them.
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- 6 New instruction booklet based on 14 years' experience makes TELKEE easy to set up and operate.

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## *..Unequalled for Beauty and Long Life*

Wood is remarkable for its strength and lightness. Engineers find it a superior material where high resistance to bending or compression is needed. Because of these qualities wood, through the ages, has had no equal as a material for fine furniture.

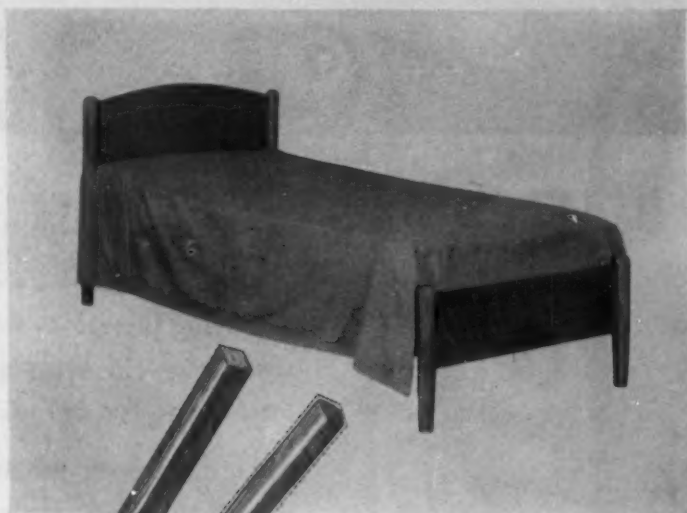
Not only is wood unequalled for a strength that gives long life to furniture... it is also unequalled for *beauty*. Wood, when fashioned and formed, polished and finished, possesses in a high degree a charm comparable to that which inspires man's admiration for fine paintings and objets d'art.

Carrom, however, does still more with wood than capture its beauty and utilize its strength in the fine furniture Carrom craftsmen produce. Carrom fine wood furniture is made exclusively for institutional use. By the extra care employed in selecting and seasoning hardwoods, forming posts, legs, bed stretchers and other vital parts from solid stock, and fitting joints securely, Carrom gives you institutional furniture unequalled for serviceability.

When you select furniture for your institution, do so with a view to permanence, beauty and economy. Choose Carrom Fine Wood Furniture made by craftsmen who "build for the decades."

**CARROM INDUSTRIES, INC., LUDINGTON, MICH.**

# CARROM



### **An Example of Carrom Strength**

Carrom bed posts are solid throughout, one-piece from end to end, not "built up" but turned from a single, solid piece of Northern Hard Birch not less than 2½ inches square. Unnecessary strength? We think not. For, if the need ever arises, the margin of extra strength is there. Carrom construction withstands abuse as well as normal use.



**WOOD FURNITURE FOR  
COLLEGE SERVICE**





## 16mm Sound Motion Picture Equipment



### Forty minds with but a single thought

A moving picture — with sound — commands undivided attention. A moving picture — with sound — creates *one* image for all — *the same image* in every mind in the classroom. What a miracle of teaching assistance to the overcrowded classrooms of today.

These educational moving picture impressions take on the maximum in brilliant projection and sound fidelity with Victor equipment — the finest in 16mm. Write for fully-illustrated booklet describing the Victor 16mm Projector.



### **VICTOR** ANIMATOGRAPH CORPORATION

A DIVISION OF CURTISS-WRIGHT CORPORATION

Home Office and Factory: Davenport, Iowa

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MAKERS OF 16MM EQUIPMENT SINCE 1923



# "4-Way" Utility Floor Lamps

*For College Dormitories, Lounging and Reading Rooms*

## Now Available for Immediate Delivery



- Direct or Indirect Lighting
- Beautiful, easy-to-clean plated finish
- Sturdily constructed for long service
- Heavy, weighted base
- Plug-in Receptacle and Night Light (Optional)

The "4-way" utility floor lamp may be used as an indirect room light, bed light, desk light or reading light. And—this lamp of so many uses is as beautiful as it is practical. Long-lasting electro-plated finish . . . smooth, graceful design . . . an attractive addition to the loveliest decorative schemes! Available with plug-in receptacle and night light, or with the exclusive, patented, non-slip fitting for quick, easy height adjustment . . . no screws or thumb nuts to turn!

### Model No. 2269.

Overall height 61". Height to bottom of shade 51 $\frac{5}{8}$ ". Shade 9 $\frac{1}{2}$ " in diameter. For use with 100 watt bulb. Heavy base 10 $\frac{1}{2}$ " in diameter. Night light equipped with independent switch and wired for 7 $\frac{1}{2}$  watt medium base bulb. Convenience outlet in canopy over night light. Wired with switch under shade, 9 feet of rubber covered cord and unbreakable plug. Electro-plated Statuary Bronze and Brass (standard finish) \$21.00. Other finishes available on special order.

### Model No. 1839.

Similar to No. 2269, except without plug-in receptacle and night light. Height from bottom of shade to floor, adjustable from 48" to 72". Electro-plated Statuary Bronze (standard finish) \$17.00. Other finishes available on special order.

*We manufacture a complete line of Desk and Floor Lamps. Send for Catalog.*



**No. 2269**  
PAT. APPLIED FOR

**No. 1839**  
PAT. APPLIED FOR

**Faries Manufacturing Company, Decatur, Ill.**  
*Pioneers in Lighting Equipment Since 1880*

# WHAT'S NEW.....

*The easiest way to get more information about the new products described in this section is to use the postage paid card opposite page 44. Just circle the key number on the card which corresponds with the number in the headline of each item. COLLEGE and UNIVERSITY BUSINESS will send your request to the manufacturer.*

## Hair Dryer

Designed for Hard, Continuous Service



Electric-Aire, a heavy duty hair dryer, is expected to have extensive use in college and university swimming pools, gymnasiums and dormitories because it is designed for hard, continuous service. It dries hair thoroughly in three to five minutes, according to the manufacturer, thus greatly

reducing the number of colds that result from wet hair.

A choice of three types of switch control is afforded in the Electric-Aire deluxe model hair dryer which can be recessed into the wall or surface mounted. It is said to be quiet, safe and fully guaranteed and prompt delivery schedules are reported.—*Electric-Aire Engineering Corporation, 209 West Jackson Boulevard, Chicago 6, Ill.*

## Transparent Mirror

Has Application in Educational Field

Transparent mirrors, the many uses of which include that of observation window in child behavior clinics, in teacher training institutes and in guidance laboratories, are now in volume production at Libbey-Owens-Ford Glass Company. When seen from one side, the transparent mirror is a reflective surface; from the other, a window. An almost incredibly thin film of chromium alloy is the key to the mirror's performance—an effective reflecting surface, it also permits passage of light.—*Libbey-Owens-Ford Glass Company, 23126 Nicholas Building, Toledo 3, Ohio.*

## Floor Cleaning Equipment

Described in New Catalog

Not only does Catalog No. 946 of the Geerpres Wringer, Inc., present the company's complete postwar line of commercial floor cleaning equipment but it features a bit of history that will be of particular interest to the maintenance staff: the evolution of the mop wringer. Based on detailed

## CUB 1

records in the U.S. Patent Office, this pictorial representation shows how mop wringers have been improved through the years from the earliest back-breaking models to the modern Geerpres wringers which squeeze water from the wet mop "down" instead of "up."

Geerpres mop wringers, according to the 16 page catalog, speed up the operation, work uniformly throughout a longer service life, eliminate splashing, keep operators' feet dry and cannot squirt water on the operators or the clean floors.

Tanks are shown, as is the Geerpres mopstick which is designed for ease of assembly and safe use. The mop cannot tangle; there are no screws to injure furniture, and no metal touches the floor, thus eliminating the danger of marring surfaces.—*Geerpres Wringer, Inc., 231 Diana Avenue, Muskegon, Mich.*

## Planning Memorial, Honor Roll?

## CUB 4

New Brochure Contains Helpful Information

On campuses where the erection of honor rolls or war memorials is planned, those responsible will find helpful information in a new brochure published by the International Bronze Tablet Company. This booklet offers complete information on standard and custom designs, costs, uses, sizes and other problems and is available without charge or obligation.—*Harold W. Paul, President, International Bronze Tablet Company, Inc., 36 East Twenty-Second Street, New York 10, N. Y.*

## Group Opinion Measured

## CUB 5

Balloting Tabulated by New Instrument

The composite opinion of a group or the result of a ballot can now be obtained simply and accurately and without the usual accompanying confusion by means of an opinion meter, a new instrument announced by the Special Products Division of the General Electric Company. This instrument, which will





accommodate as many as 120 individuals, enables each participant to express his opinion secretly and in degree.

The instrument consists of a large indicating unit and up to 120 hand held stations on each of which are a dial, calibrated from 0 to 100, and an adjustable pointer. From 0 to 50 is the "no" side of the dial; from 50 to 100 is the "yes" side, and there is an "off" position. If strongly in favor of a question, the participant turns the pointer close to 100; if indifferent, to 50, and, if disapproving, close to 0. The results of all the individual stations are then averaged by the indicating unit, the sweep pointer on the dial stopping and locking at a number corresponding to that average in about ten seconds. The percentage of those turning their stations to "off," not desiring to express an opinion, can be determined also.

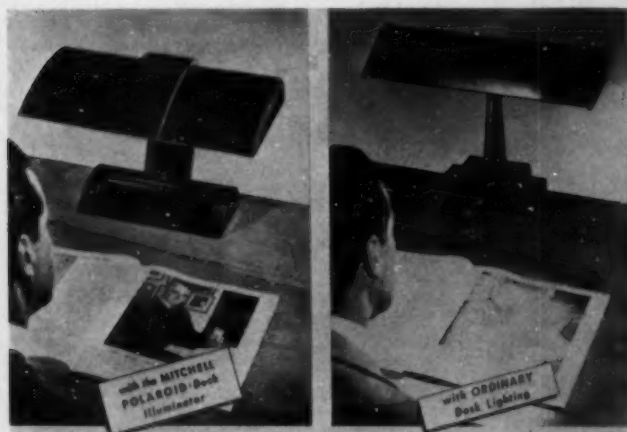
In balloting, fifty-fifty opinions are not taken into account in the results nor are those stations turned to "off" but the percentage of those "on the fence" can be determined if desired.—*Apparatus Department, General Electric Company, Schenectady, N. Y.*

### Desk Illuminator

CUB 6

#### Eliminates Glare by Means of Polaroid Filter

Glare, reportedly the most important single cause of eye-strain, errors, reduced efficiency and fatigue, is said to be eliminated completely by the Mitchell Polaroid Desk Illuminator. The accompanying illustration demonstrates the difference between ordinary desk lighting and that pro-



vided by this entirely new type of illuminator. The picture at the right shows glary, hard, uneven lighting which tends to blot out the printed matter and pictorial subject in streaks. In contrast, the picture at the left shows the glare free, even, comfortable illumination that brings the reading material into sharp focus, eliminating the need to shift position or to adjust eyes.

The Polaroid principle of glare elimination is the secret of this new development. Two standard fluorescent lamps are its light source, the light passing through a concealed Polaroid filter.

This new unit, developed to benefit all those who read or work at desks, is of all metal construction and harmoniously styled to fit on any desk.—*Mitchell Manufacturing Company, 2525 North Clybourn Avenue, Chicago, Ill.*

### Wall Washing Machine

CUB 7

#### Simplifies Task for Maintenance Department

The maintenance department's problem of cleaning walls has been simplified by the new Wallmaster which is now in production. Not only is the task made easier, but this revolutionary method is said to result in walls staying clean longer because they are left film free and dirt is not inclined to adhere.



Designed to wash, rinse and dry all types of interior wall surfaces, to revitalize the paint and to restore the original luster, this machine reduces wall washing time and eliminates streaking, dripping and drop cloths. Special cleaner and rinse water are applied to wall surfaces with large, lightweight trowels which are covered with terry cloth pads as shown in the illustration. The cleaner and rinse are fed into the trowels by fingertip control from pressure tanks. The machine is entirely mechanical and uses no electricity.—*Quaker Maintenance Company, Inc., 124 West Eighteenth Street, New York 11, N.Y.*

### Rats Walk to Death

CUB 8

#### When They Tread on New Raticide

It's the last mile for rats when they walk through Rodust, a powder made with the new raticide, ANTU (Alpha Naphthyl Thiourea) which kills rats by contact. A folder describing its composition and how to use it is available from the Government Chemical Products Company. According to the folder, rats cannot avoid Rodust as they do traps, baits and other types of rat killers; it is twenty to forty times as effective as the standard rat poison and is extremely easy to use. Emphasized, too, is the fact that Rodust is harmless to human beings and to household pets.—*Government Chemical Products Company, 2000 West Fourteenth Street, Department AAA, Cleveland 13, Ohio.*

### Deferred Payment Plan

CUB 9

#### Of Student Fees Adds New Feature

The Baltimore Plan, a service permitting the deferred payment of school fees by parents of students in approved schools and colleges, has added a new feature: no liability. Through this feature, the plan, which is offered by the Commercial Credit Company, places no financial liability whatever upon the schools and colleges making use of it. Where an institution has been notified that a parent is in default, however, the institution is requested to cooperate to the extent of withholding credits, degrees and similar acknowledgments.

Although the Baltimore Plan was introduced only a few years ago, more than 100 representative institutions now make its services available to parents and guardians. The plan may be used for any or all fees listed in the institu-

tion's catalog. The service charge is 3 per cent of the amount of the commitment plus a \$5 qualification fee, the cost being borne entirely by the parent or guardian. The school pays nothing, receiving the full amount of tuition and other school fees covered by the contract.

The necessary forms are few and they are supplied to the institution without charge. Promotional materials, too, are provided in the quantity desired. Complete details of the Baltimore Plan will be mailed promptly on request.—*The Baltimore Plan, 100 East Forty-Second Street, New York 17, N. Y.*

## Slipping Accidents

CUB 10

### Do Swan Dive on New Matting



There's many a slip twixt the plunge and the pool... but not with L-CO rubber matting underfoot. Its nonskid, nonslip surface is said to reduce swimming pool slipping accidents practically to zero.

Although safety is one of its outstanding features, it has many other advantages to recommend it. It is reversible, easily cleaned and its rugged construction of rubber-link-on-steel virtually assures lifetime wear, according to the manufacturer. Too, its shock absorbing, resilient qualities make it particularly adaptable as a gymnasium floor covering. Athletes "working out" on L-CO rubber matting are reported to stand for far longer periods with noticeably less fatigue.—*Loewenthal Company, 188 West Randolph Street, Chicago, Ill.*

## Automatic Fire Detection

CUB 11

### Will Protect Campus Buildings

Since no amount of precaution can prevent fire, the logical answer seems to be automatic fire detection and the Gamewell Company has it: Vigilarm. A new, improved fire detection system, it automatically discovers fire, warns building occupants and summons the fire department.

A heat sensitive "nervous system," Vigilarm consists of a continuous length of fine copper tubing installed along the ceiling. This insulated hollow tubing permits constant electrical supervision and is said to eliminate all other objectionable features of bare copper tubings, including the possibility of corrosion, rupture, breakage or removal. Operating on the rate-of-rise principle, the tubing instantly detects and reports the abnormal heat that is present in every fire, however small, and reports it to the "brain," a patented detector unit.

Summoning of local help may be enough, but the "brain" remains on the alert. If the fire is not immediately extinguished, if the abnormal heat continues past the danger point, the detector unit then goes into action again, sending

out a fire signal over the municipal fire alarm system to the fire department. In addition, the manufacturer points out that periodic testing, which is a requirement of any automatic fire detecting system, is simple and foolproof.

"Safeguarding Life and Property From Fire" is the title of a booklet which graphically tells the story of Vigilarm. Moreover, Gamewell engineers will gladly make a study of any property to be protected and give an estimate of cost at no obligation.—*The Gamewell Company, Newton Upper Falls, Mass.*

## Lighting Publication

CUB 12

### For Shelf of Favorite Reference Books

Expected to hold an important place on the purchasing agent's shelf of favorite reference books is the new 76 page technical treatise, "G-E Bulletin LD-1." Prepared by C. E. Weitz, widely known lamp and lighting authority at Nela Park headquarters of the General Electric Lamp Department, it features the latest lamp developments and their practical applications.

Sent earlier to a selected list of electrical maintenance engineers, lighting research specialists and science teachers, as well as to average lamp users, the bulletin is reported to have won enthusiastic acclaim. It is now available, singly and in quantity, at a cost of 40 cents each.

Of particular interest to purchasing agents is the fact that the publication's back cover lists the G. E. Lamp Department's various sales and service districts which are equipped to furnish additional technical, ordering, shipping and accounting information desired.—*General Electric Lamp Department, Nela Park, Cleveland, Ohio.*

## New Standard Microscope

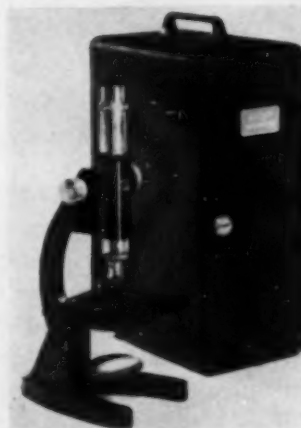
CUB 13

### Has Many Features of Higher Priced Item

Many features usually found only in much higher priced instruments are said to be found in the new Federal Model 40 Standard Microscope.

Two Huygenian eyepieces (5x and 10x standard Society diameter), scientifically tapered to afford close eye approach, reduce interference with the field of vision to a minimum. By a flick of the finger, convertible (10x-20x) achromatic objective can be changed from high power to low power.

A direct reading drawtube provides an additional means of varying magnifying power instantly. Magnification range of 50x to 300x can be extended still farther by using additional standard eyepieces or objectives. The microscope will accommodate all standard eyepieces.





A bleeder hole in the lens mount vents trapped air from the barrel so that the eyepiece seats immediately when inserted into the drawtube and does not pop out when the drawtube is lowered suddenly. Other standard features include a full sized stage with slide clips; an optically ground, larger sized, concave mirror on swivel, mounted substage; a six aperture, pivoted, substage diaphragm; a full tilting, stable frame and base with stops for vertical and horizontal positioning.

A metal carrying case is available as a separate accessory. —*Federal Manufacturing and Engineering Corporation, 211 Stenben Street, Brooklyn 5, N. Y.*

## Cost Reducing Methods

CUB 14

### Suggested by Sample Portfolios

Faced with the problem of combating higher costs of operation, educational institutions and the school supply industry will naturally be interested in time reducing and cost cutting methods of streamlining records and procedures. To examine systems used by comparable business organizations for consolidating and simplifying writing operations, Uarco Incorporated, manufacturer of continuous business forms, is making available a series of new sample portfolios for this purpose. The portfolios can be obtained without obligation. —*Systems Department, Uarco Incorporated, 5000 South California Avenue, Chicago 32, Ill.*

## New Fire Extinguisher

CUB 15

### Is Midget in Size Only

"Mighty Midget" is a two word description of the American-LaFrance-Foamite Corporation's new 3 $\frac{3}{8}$  Speedex Extinguisher which is now in production. Called the Alfco Speedex, its contents weigh only 3 $\frac{3}{8}$  pounds but expand upon release to 450 times their contained volume. It is said to be an ideal medium for extinguishment of small fires in oils and greases and in small electrical hazards.



Carbon dioxide is the extinguishing agent and it is released by palm pressure upon a quick acting squeeze type of valve. This gas is nonpoisonous, noncorrosive and odorless, is a nonconductor of electricity and will not freeze at any climatic temperature. Being heavier than air, it will not support combustion.

The Speedex 3 $\frac{3}{8}$  is only 3 9/16 inches in diameter, has an overall length of 22 inches and its total weight is less than 12 pounds. It is shipped fully charged with wall hanger, screws and record tag. —*American-LaFrance-Foamite Corporation, Elmira, N. Y.*

## Drinking Fountain Complex

CUB 16

### Cured by New Bubbler Valve

The drinking fountain can be approached without hesitancy or trepidation once the new Ebco 12000 Bubbler has been installed. This new angle stream bubbler has a self closing valve and automatic stream control that eliminate the squirting bugaboo. Finger tip operation permits a full flow of water at any stream height without squirting or surging. A sparkling chromium plated bubbler guard enhances its modern design and meets all sanitary codes.



The valve has an all brass body with a roller bearing operating mechanism and special alloy brass forgings; it is readily accessible for regulating the bubbler stream to any desired height; it has no screen, is nonclogging and, according to the manufacturer, will give years of trouble free service. The new Oasis Electric Water Cooler comes equipped with this new type of bubbler but the valve can be installed on other water coolers as a replacement. —*Ebco Manufacturing Company, 403 West Town Street, Columbus, Ohio.*

## New Slide Projector

CUB 17

### Lists Many Features, Including Lower Price

Eight new important features are listed by Bell and Howell for its new Filmo Duo-Master Projector for 2 by 2 inch slides: efficient illumination system, superior slide protection, drop-out lamp replacement, cool operating temperature, adjustable condensers, rock-steady projection, interchangeable lenses and die-cast construction. Additional features include spiral-groove microfocusing, 8 degree vertical tilt, hinged lamphouse lid, functionally positioned controls and brown wrinkle finish. With a 5 inch lens in position, the projector's dimensions are 4 $\frac{7}{8}$  inches wide, 13 inches long and 8 $\frac{1}{2}$  inches high. A specially designed compartment case is available, too.

Designed with the same engineering precision and skill that characterize the company's higher priced models, the new projector is offered in a price range lower than that of the already well known Filmo Slide Master. —*Bell and Howell Company, 7100 McCormick Road, Chicago 45, Ill.*

## High Velocity Air Filter

CUB 18

### Is Described in Available Bulletin

Designed to perform efficiently at an approach velocity of 432 f.p.m. handling 1200 c.f.m. through a 20 by 20 inch filter panel, the new all metal, permanent, cleanable Agitair FM air filter is ruggedly constructed to withstand the mechanical abuse of cleaning. Frames are of cold rolled steel and arc welded. The medium consists of layers



of expanded metal so disposed as to induce turbulent cyclonic action of the air within the filter, thereby creating a centrifugal wiping action against all viscous surfaces of the medium.

The Agitair FM operates at high velocities with sustained low resistance to air flow, maximum dust holding capacity and extremely high dust holding efficiency. A descriptive bulletin FM101 is available upon request.—*Air Devices, Inc., 17 East Forty-Second Street, New York 17, N. Y.*

## Insufficient Wall Outlets?

CUB 19

### This Box Solves Temporary, Permanent Needs



The new Multi-Plug Outlet Box, Model 3001-A, is one answer to the problem of insufficient wall outlets for electric current, whether the solution need be temporary or permanent. For example, it will accommodate additional temporary lighting fixtures and,

if a permanent circuit is required, it will enable a large number of instruments or machines to operate from a small number of wall outlets, thus eliminating the necessity for constructing such outlets.

A small unit, it can be plugged into any convenient wall outlet, A.C. or D.C., 110-125 volts, and the boxes can be "pyramided," one being plugged into another. Two fuses protect the main line against shorts and overloads.

Features of the Multi-Plug include eight standard receptacles conveniently spaced; a neon pilot light (1/25 watt) which tells A.C. from D.C. and signals "voltage on all plugs," and a long stroke toggle switch which breaks *both* legs of the line. All components are underwriters approved.

The cabinet dimensions are 3 by 4 by 5 inches and the net weight is 1 pound, 9 ounces. Model 3002-A, which has 7½ amp. fuses, is designed for use on 220-250 volts.—*Allied Laboratory Instrument, Inc., 355 West Twenty-Sixth Street, New York 1, N. Y.*

## Methods, Equipment Described

CUB 20

### For Improving Operation of Business Office

"Production line" efficiency in the management and protection of vital business records is the purpose behind the design of Diebold equipment. The company, manufacturer of progressive management equipment, has prepared an illustrated brochure which graphically demonstrates how its modern methods and tools improve the operation of the business office. Cardineer rotor record keeping, for example, brings new speed, accuracy, space saving and record condensation to office management; V-line posting trays put new velocity into machine posting; Flofilm, the

"one hour" microfilming process, provides permanent protection of records through microphotography.

Because the equipment described is suited to the needs of various sized institutions, the brochure is expected to hold an appeal for every business officer.—*Diebold, Incorporated, Canton 2, Ohio.*

## Paint Remover

CUB 21

### Works Equally Well on Upright, Flat Surfaces

Bull Dog Remover, which contains a newly formulated, quick-acting solvent for removing tough coats of old paint, varnish, enamel, shellac and lacquer, will ease the job of renovating school furniture. This remover can be used as well on upright surfaces as on flat surfaces and is said to stay moist and deep-cutting as long as twenty-four hours in the hottest sun, reducing hard finish coats to a quickly yielding sludge that can be stripped off readily without leaving a greasy film.

This new remover is supplied in liquid and cream form, has no disagreeable odor, is free from acid and alkali reactions and is noncorrosive, according to the manufacturer. As a liquid, it is recommended for furniture, bakelite varnishes, clear varnishes, synthetic clear finishes and all flat surfaces; as a cream, for all vertical surfaces, all exterior surfaces, boats and marine work and for decks.

The new product will not raise wood grain, damage the fiber or injure the user or brush used to apply it, the manufacturer asserts. It is supplied in gallons, quarts, pints and half pints at Gillespie dealers and other paint stores.—*Gillespie Varnish Company, Dey Street, Jersey City 6, N. J.*

## Hygienic Toilet Seat

CUB 22

### For Use in College Restrooms

The germ-killing properties of the new Grenby Hygienic Toilet Seat make it especially desirable for use in restrooms of union buildings, dining halls, dormitories, gymnasiums, field houses and various other campus buildings utilized by the students and the public. The ultraviolet rays of the General Electric Germicidal Lamp bathe the seat continuously when it is not in use and, thus, is upright.

Entirely automatic and requiring no handling, the seat lowers at the press of a button, remains down without holding and returns automatically after the weight is removed. As the seat returns to its cabinet, the toilet flushes automatically and the germicidal lamp lights. A Church "Moltex" Seat and a Sloan Valve are standard equipment.—*Grenby Manufacturing Company, Plainville, Conn.*



## Marble Reappears

### On the Building Scene

To show what domestic and foreign marbles are available in this country today and what quarrying conditions are likely to be in this country and abroad for the coming year, the Marble Institute of America has prepared a brochure, "Marble Forecast—1946-1947." The brochure groups marbles into four classifications according to their respective characteristics and working qualities and, in addition, according to the color ranges for both foreign and domestic marbles. Too, it tells what quarriers, importers, wholesalers, finishers and contractors of marble are still doing business since the depression and war years.—*Marble Institute of America, 108 Forster Avenue, Mount Vernon, N. Y.*

CUB 23

Micromet is reported to be of value also in air conditioning systems where evaporative condensers and coolers tend to scale up or corrode.—*Calgon, Inc., Hagan Building, 323 Fourth Avenue, Pittsburgh 30, Pa.*

## Corrosion, Scale Water

### Problems Overcome by Chemical

Whether it uses 13,000 or 1,000,000 gallons of water a month, any institution having corrosion or scale water troubles in hot water or cooling water systems will be interested in the new series of Micromet feeders by which Micromet chemical can be fed into the water lines. Micromet is a modification of Calgon which, according to the manufacturer, is being used successfully in more than 600 municipal water systems and in many industrial installations to prevent lime scale and control corrosion.

The new series consists of large types of feeders which hold up to 20, 50 or 100 pounds of Micromet at one charge. Because the chemical dissolves slowly, at a rate of 25 per cent a month, only that much of the initial charge needs to be renewed each month.

CUB 24

## Fire Extinguisher

### Simple to Operate; Uses New Type of Fluid

Anyone can operate the Stop-Fire extinguisher, even a frail woman or a child, says its manufacturer. Ease of operation and accuracy of aim, however, are not its only significant improvements over the old type of equipment: The character of the fluid is similarly an important advancement, it is reported.

In Stop-Fire, carbon dioxide is combined with carbon tetrachloride. Released as a fine spray, these chemicals are converted instantaneously into a heavy, fire smothering gas. As a result, fires of the most stubborn kind—oil, ether, gasoline, electrical—are blanketed and snuffed out in a matter of seconds.

The Stop-Fire has a long range, the bulk of the stream traveling anywhere from 15 to 25 feet, and there is no possibility of a spoiled aim. The tank is out of the way, suspended by a shoulder sling.—*Union Stop-Fire Corporation, Fourth Avenue and Pacific Street, Brooklyn 17, N. Y.*



CUB 25

## WANT ADVERTISEMENTS

This section is being initiated as a service for readers and its continuation will be contingent on reader demand and response. The rates for such advertising will be as follows: 10 cents per word; minimum charge, \$2.50.

### POSITIONS WANTED

**Business Manager.** Nineteen years' experience as auditor in coeducational college in Middle West. Every phase of accounting, management, purchasing, building construction, maintenance, administration. Experience gained under one of most highly regarded officers in section. Earlier experience in cost accounting, securities. Ready for chief responsibilities. Married, 45. Write Box CB1, COLLEGE AND UNIVERSITY BUSINESS.

**Business Officer.** Five years' experience as registrar and five additional years as financial secretary in midwest Teachers College. Other administrative experience in high school and junior college. Desires location in Rocky Mountain or Pacific area. Master's degree in Business Administration. Married, 43. Write Box CB2, COLLEGE AND UNIVERSITY BUSINESS.

Address replies to COLLEGE AND UNIVERSITY BUSINESS, 919 N. Michigan Avenue, Chicago 11, Ill.

**Chief Accountant or Business Officer.** Thirteen years' broad experience covering accounting, management, operations, procedure and field supervision, including seven years accountant, large Land Grant College. Three years' graduate training beyond Masters'. Married, 43. Write Box CB3, COLLEGE AND UNIVERSITY BUSINESS.


**Purchasing Agent.** Five years' intensive War Department experience as civilian procurement officer negotiating diversified contracts and supervising purchasing staff Corps of Engineers. Administrative and financial experience includes management investment service department of New York Stock Exchange firm, securities consultant and financial examiner. Experience should qualify for combination business manager and purchasing officer. Write Box CB6, COLLEGE AND UNIVERSITY BUSINESS.

### POSITIONS OPEN

**Purchasing Agent.** Man under 38 to assume responsibility for purchasing and central stores. New England college. Excellent opportunity for constructive work. College graduate with some experience preferred. Salary contingent upon experience and ability. Permanent position. Write Box CB4, COLLEGE AND UNIVERSITY BUSINESS.

**Superintendent of Buildings and Grounds.** Michigan school is interested in employing a young man with engineering training to supervise all buildings and grounds maintenance. Only person interested in permanent location need apply. For further details, write Box CB5, COLLEGE AND UNIVERSITY BUSINESS.

# Thomas A. Edison Centennial 1847 1947



**T**HEY called him "the wizard of Menlo Park"—this American genius whose inventions have benefited all mankind.

*From his crowded workbench came the electric light, the phonograph, the motion picture camera and projector.*

Always, his mind goaded him on to new inventions, new discoveries. Often, he left to others the translation of some of his basic ideas into practical and workable form.

To Marconi, Edison made available his discoveries that led to the development of radio.

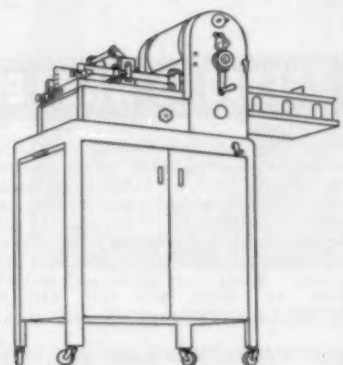
To Alexander Graham Bell, Edison licensed his carbon transmitter, which made the telephone and the radio microphone commercially practicable.

And to a struggling young Chicago inventor, A. B. Dick, Edison licensed his early work in the field of stencil duplication...the electric pen, experiments in "autographic" duplicating ink. So interested, in fact, did Edison become in young Mr. Dick's concepts of duplication of materials typewritten or drawn that he assisted with his own hands in the development of the duplicating process.

The modern Mimeograph brand duplicator and

the stencil sheets, inks, and supplies that go with it are many steps forward from the humble beginnings of seventy-odd years ago. But as the clear, crisp copies—in black-and-white or in color—roll out of the Mimeograph brand duplicator in your office, school or church, this Edison Centennial Year, remember, it was American genius, working in the American way, that created this low-cost means of rapid written communication. A. B. Dick Company, Chicago; The Mimeograph Company, Ltd., Toronto.

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**OCTAGON CASE**—The smart appearance that distinguishes the Challenger rests with the new Octagon Case. The octagon shape provides better protection for the fabric, adding years to the life of the screen.

**RIDGE-TOP LEGS**—Designed to make the screen more stable, Ridge-Top legs open and close with a gentle push. They have smoothly-rounded, scratch-proof feet.

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